



**OREGON
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Oregon Investment Council

September 8, 2021

John Russell
Chair

Rex Kim
Chief Investment Officer

Tobias Read
State Treasurer



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OREGON INVESTMENT COUNCIL

Agenda

September 8, 2021
9:00 AM

Oregon State Treasury
Investment Division
16290 SW Upper Boones Ferry Road
Tigard, OR 97224

| <u>Time</u> | <u>A. Action Items</u> | <u>Presenter</u> | <u>Tab</u> |
|-------------|--|--|------------|
| 9:00-9:10 | 1. Review & Approval of Minutes June 2, 2021 | John Russell <i>OIC Chair</i> | 1 |
| | 2. Committee Reports | Rex Kim <i>Chief Investment Officer</i> | 2 |
| 9:10-9:30 | 3. OPERF Fixed Income Manager Recommendations | Geoff Nolan <i>Senior Investment Officer, Fixed Income</i> | 3 |
| | <u>B. Information Items</u> | | |
| 9:30-10:15 | 4. Responsible Investing: Choices and Consequences | Lukasz Pomorski, Ph.D. <i>Managing Director, AQR</i> | 4 |
| 10:15-10:45 | 5. ESG Update | Karl Cheng <i>Senior Investment Officer, Portfolio Risk & Research</i> Anna Totdahl <i>Investment Officer, Portfolio Risk & Research</i> Michael Langdon <i>Director of Private Markets</i> | 5 |

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John Russell
Chair

Cara M. Samples
Vice-Chair

Monica Enand
Member

Charles Wilhoite
Member

Tobias Read
State Treasurer

Kevin Olineck
PERS Director

| | | | |
|--------------------|--|---|----------|
| 10:55-11:30 | 6. CEM Benchmarking | David Randall <i>Chief Investment Operating Officer</i> Mike Heale <i>Principal, CEM Benchmarking</i> | 6 |
| 11:30-12:00 | 7. Q2 OPERF Performance | Allan Emkin <i>Managing Principal, Meketa Investment Group</i> Mika Malone <i>Managing Principal/Consultant, Meketa Investment Group</i> | 7 |
| 12:00 | 8. Asset Allocation & NAV Updates | Rex Kim | 8 |
| | a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund | | |
| | 9. Calendar — Future Agenda Items | Rex Kim | 9 |
| 12:05 | 10. Open Discussion | OIC Member Staff Consultants | |

C. Public Comment

TAB 1 – REVIEW & APPROVAL OF MINUTES

September 8, 2021 Regular Meeting



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State of Oregon

Office of the State Treasurer

16290 SW Upper Boones Ferry Road
Tigard, Oregon 97224

OREGON INVESTMENT COUNCIL

June 2, 2021

Meeting Minutes

Members Present: John Russell, Cara Samples, Monica Enand, Charles Wilhoite, Tobias Read and Kevin Olineck

Staff Present: Rex Kim, John Hershey, Michael Langdon, David Randall, Karl Cheng, Ben Mahon, Tony Breault, Geoff Nolan

Staff Participating virtually: Perrin Lim, Anthony Breault, Mohammed Qurasishi, Mike Mueller, Sam Spencer, Missy Simpson, David Elott, Anna Totdahl, Roy Jackson, John Lutkehaus, Alli Gordon, Kristi Jenkins, Rachel Wray, Jen Plett, Wil Hiles, Robin Kaukonen, Aliese Jacobsen, Amy Bates, Paul Koch, Austin Carmichael, Andrew Robertson, Tyler Bernstein, Amanda Kingsbury, Dana Millican, Andrey Voloshinov, Angela Schaffers, Steve Kruth, Tim Miller, Christopher Ebersole, Tiffany Zahas, Tyler Bernstein, Eric Messer, Ian Huculak, Tan Cha, Faith Sedberry, Scott Robertson, Kenny Bao, Dmitri Palmateer, Caitlyn Wang, Jo Recht, Mark Selfridge, Monique Sadegh, Will Hampson, Jeremy Knowles, Jacqueline Knights, Taylor Bowman, Caleb Aldridge, Debra Day, Chuck Christopher

Consultants Present: Allan Emkin, Christy Fields, Mika Malone, David Glickman, Paola Nealon, Eric Larsen and Colin Bebee (Meketa Investment Group, Inc.); Stephen Cummings, Kristen Doyle, Raneen Jalajel (Aon Investments); Tom Martin, Dan Fann and Trevor Jackson, (Aksia/TorreyCove Capital Partners LLC), Steve Kennedy, Albourne; Sadhana Shenoy, Lawrence Furnstahl, Jardon Jaramillo, John Scanlan and Kevin Olineck (PERS Board); Matt Larrabee and Scott Preppernau (Milliman)

PERS Present: Sadhana Shenoy, Lawrence Furnstahl, Jardon Jaramillo, John Scanlan, Stephen Buckley, and Kevin Olineck (PERS Board); Matt Larrabee and Scott Preppernau (Milliman)

Legal Counsel Present: Steven Marlowe, Department of Justice

Before proceeding with the OIC meeting, Chief Investment Officer Rex Kim provided a disclosure pertaining to the virtual set-up of this OIC meeting, informing those in attendance (virtual and in person) of the guidelines in which this meeting will proceed.

The June 2nd, 2021 OIC meeting was called to order at 9:01 am by John Russell, OIC Chair.

I. 9:01 am Review and Approval of Minutes



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MOTION: Chair Russell asked for approval of the April 21st, 2021 OIC regular meeting minutes. Treasurer Read moved approval at 9:01 am, and Ms. Samples seconded the motion which then passed by a 5/0 vote.

II. 9:03 am Committee Reports

Mr. Kim gave an update on the following committee actions taken since the April 21st, 2021 OIC meeting:

Private Equity Committee:

May 21, 2021

Sherpa Healthcare II + Sidecar

\$100M

Real Estate Committee:

None

Opportunity Committee:

None

Alternatives Portfolio Committee:

None

III. 9:04 am OPERF Performance

Mika Malone, Managing Principal/Consultant Meketa Investment Group and Paola Nealon, Principal/Consultant Meketa provided the OPERF Q1 Performance.

OPERF posted a return of 5.4% for the first quarter, relative to a benchmark return of 4.5% and peer median return of 3.2%. This ranks in the top decile of the InvestMetrics public plan peer universe for the quarter.

The last year was marked by extraordinary equity returns. Within Domestic Equity, the OPERF portfolio benefited from value and small cap exposure tilts in the last two quarters, but was penalized over all other trailing periods. Consideration should be given towards determining and re-assessing the magnitude and conviction of these exposures within the portfolio.

OPERF saw strong benchmark-relative performance across all time periods within International Equity.

The Global Equity Low Volatility sleeve comprises nearly 90% of the total allocation to Global Equity. Due to the strong emphasis on downside protection, these strategies have struggled to keep up with the MSCI ACWI IMI Index given the strong equity market experienced since implementation.

The performance of the Private Equity portfolio, although strong on an absolute basis, detracted on a relative basis. The OPERF Portfolio maintains a significant overweight relative to the target – actual allocation of 24% versus a target allocation of 19%. Additionally, the portfolio underperformed its public market benchmark over most trailing periods, due to the extraordinary performance of public equity markets over the last year. OPERF is actively looking to reduce private equity exposure, though it will take some time given the illiquid nature of the asset class.



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Diversifying strategies performed relatively well for the last quarter. The segment outperformed the CPI – 4% benchmark by 2.9%. Longer period returns remain challenged on an absolute and relative basis; Meketa believes some of the underperformance can be attributable to implementation.

In review of the Asset Allocation, it was noted that the OPERF portfolio had a strong first quarter in terms of absolute and relative returns and outperformed the Policy Index.

- Public Equity's relative outperformance contributed to positive returns as value and core managers exhibited strong performance in the wake of a growth reversion.

IV. 9:16 am OIC, PERS Joint Session

Sadhana Shenoy, Chair PERS Board, Kevin Olineck, Director PERS Board, Lawrence Furnstahl, Vice-Chair PERS Board, Stephen Buckley Member PERS Board, Jardon Jaramillo Member PERS Board, John Scanlan Member PERS Board, Matt Larrabee, Principal Milliman and Scott Preppernau, Principal & Consulting Actuary Milliman presented on the OIC and PERS Board annual joint meeting. Sadhana Shenoy announced they have 3 new council members since the last joint meeting in 2019.

Kevin Olineck announced PERS will be celebrating their 75th anniversary on July 1st. Mr. Olineck reviewed the plans that PERS administers, serving 380,000 members and over 900 employers. Mr. Olineck reviewed tiers with regards to benefits, liquidity/contributions rates and retirement timelines. PERS is in line with other PERS plans across the country in respect to funded status. Over 75 legislative changes have been made to PERS since its inception.

Matt Larrabee and Scott Preppernau provided an overview of the current rate setting process and methodology, including details on rate collaring, benefit amounts and assumptions that go into their actuarial model. Mr. Larrabee provided insight into the funding of the program to ensure soundness of benefits for current and future PERS retirees. There have been 3 decreases in the assumed return from 8% to 7.2% and they are currently in a review process that is predicted to be lower for the biennium. Mr. Preppernau discussed valuation assumptions in relation to inflation and real wage growth equating to system payroll growth, all assumptions and methods will be adopted at the July 2021 board meeting.

Additional topics that were reviewed: system-average weighted total pension-only rates; two-year rate-setting cycle for future assumptions and methods adopted by the board in consultation with the actuary; valuation process and timeline; board objectives in relation to methods and assumptions; the fundamental cost equation; governance structure which is set by Oregon legislature and assumptions to be reviewed and adopted at the next board meeting. Remaining balances for 2020, 2022 and 2030 year amortization periods were discussed. Additionally, projected benefit payments and cash flow & asset balances were reviewed.

Ms. Shenoy and Mr. Russell thanked Mr. Larrabee and Mr. Preppernau for their extensive presentation.

V. 10:34am OPERF Asset Allocation

Karl Cheng reviewed staff recommendations and OIC approvals. Ben Mahon and Stephen Kennedy discussed split policy: Alternatives and Real Assets.



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Two changes to OPERF's strategic asset allocation and associated policy revisions were proposed: a) bifurcation of the Alternatives Portfolio into the Real Assets and Diversifying Strategies Portfolios; and b) minor adjustments to OPERF's target asset allocation, including an increase to Private Equity's allocation by 2.5% and a decrease to Public Equity's allocation by 2.5%.

The Council last changed the target allocation to the Private Equity Portfolio at the June 2015 meeting when it lowered the target from 20% to 17.5%. However, the Private Equity Portfolio's actual weight in OPERF have generally been above 20% for the past 11 years.

Besides the expected effort of managing illiquid assets and its associated cash flows, there were two OPERF-specific issues that contributed to the sustain overweight to the Private Equity Portfolio:



- The considerable commitments to the “legacy” 2005-2008 vintage years and the tempo of their distributions. Staff discussed this at the recent Private Equity Annual Review and have implemented a plan to manage these assets; and
- The favorable appraisal values of OPERF's private equity investments have sustained through both the market drawdown and drawup of 2020. That is partly represented by a 10-year annualized return of +13.4% compared to that of the MSCI All-Country World Index IMI (public equity benchmark) of +9.2%.

Therefore, staff recommends:

1. Increase the Private Equity Portfolio's target allocation by 2.5% and decrease the Public Equity Portfolio's target allocation by 2.5%. That would keep constant OPERF's exposure to equity or “economic growth”; and
2. Expand the rebalancing range around the target allocations for illiquid private market asset classes, i.e., Private Equity, Real Estate, and Real Assets. Per INV 1203: Statement of Investment Objectives and Policy Framework for OPERF, the upper end of range for Private Equity is 21%. The Private Equity Portfolio has exceeded this value since Q4 2018. The purpose of expanding the range is to recognize the difficulty of rebalancing illiquid assets, particularly through volatile market environments, and reduce the number of “false positive” breaches of range.



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| Asset Class | Current Target Allocation (%) | Current Rebalancing Range (%) | Recommended Target Allocation (%) | Recommended Rebalancing Range (%) |
|-------------------------|-------------------------------|-------------------------------|-----------------------------------|-----------------------------------|
| Public Equity | 32.5 | 27.5 – 37.5 | 30.0 | 25.0 – 35.0 |
| Private Equity | 17.5 | 14.0 – 21.0 | 20.0 | 15.0 – 27.5 |
| Fixed Income | 20.0 | 15.0 – 25.0 | 20.0 | 15.0 – 25.0 |
| Real Estate | 12.5 | 9.5 – 15.5 | 12.5 | 9.0 – 16.5 |
| Real Assets | 7.5 | | 7.5 | 5.0 – 10.0 |
| Diversifying Strategies | 7.5 | | 7.5 | 5.0 – 10.0 |
| Risk Parity | 2.5 | 0.0 – 2.5 | 2.5 | 0.0 – 5.0 |
| Total Fund | 100.0 | | 100.0 | |

In conclusion, see below a complete list of staff recommendation:

Approve the bifurcation of the Alternatives Portfolio into the Real Assets and Diversifying Strategies Portfolios and the new asset allocation targets. These recommendations are reflected in the following proposed policies:

- Revision to INV 1203: Statement of Investment Objectives and Policy Framework for OPERF;
- New policies INV 710: Real Assets Portfolio Standards & Procedures and INV 711: Diversifying Strategies Portfolio Standards & Procedures; and
- Retirement of INV 702: Alternative Investments Portfolio Standards & Procedures.

Chair Russell asked for approval of staff recommendations. Treasurer Read moved approval at 11:28am, and Ms. Samples seconded which then passed on a 5/0 vote.

VI. 11:33 am IAP Program Review

Karl Cheng, Chris Nikolich, and Elena Wang delivered an IAP Program update which included an overview of the Oregon Public Employees Retirement Fund assets by PERS accounts as of March 31, 2021, IAP restructuring, and 2020 updates.

VII. 11:59 am Operational Annual Review

David Randall, Kristi Jenkins, and Debra Day gave an update on the Investment Operations that included an executive summary of their group’s various activities and accomplishments, an update on the OST Investment Division Org Chart, as well as a comparison of assets under management in 2020 vs. 2021. The update also included an overview of Trade Operations which was recently brought in-house after being externally managed, as well as a look at financial reporting and data integrity.

VIII. 12:20 pm Asset Allocation & NAV Updates

Mr. Kim reviewed asset allocations and NAV’s across OST-managed accounts for periods ended March 31, 2021.

IX. 12:22 pm Calendar – Future Agenda Items

A calendar listing of future OIC meetings and scheduled agenda topics was included in the Council’s meeting materials. It was noted during the meeting that OIC will resume regular monthly meetings in September 2021.

X. 12:24 pm Open Discussion

Chair Russell asked to look into how committees are appointed, and expressed concern that there is not currently a Committee for Public Equity. Chair Russell also asked the Board when it is expected to resume in-person OIC meetings. Treasurer Read noted that at this time, staff is tentatively scheduled to return to the office in September 2021, however it will be a slow transition and not all at once. At this time a return date for in-person OIC meetings is still to be determined.



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XI. 12:30 pm Public Comments

Chair Russell read written statements from Kristin Edmark, Theodora Tsongas, Suzanna Kassouf, Nicole Lehto, and Sahara Valentine. All comments pertained to concerns of Oregon/PERS investing in long-term, illiquid assets with managers highly invested in fossil fuels

Mr. Russell adjourned the meeting at 12:40 pm.

Respectfully submitted,

Kristi Jenkins
Investment Operations Manager

DRAFT

TAB 2 – Committee Reports

TAB 3 – OPERF Fixed Income Manager Recommendations

September 8, 2021

Fixed Income Portfolio Credit Manager Recommendations

Geoff Nolan, Senior Investment Officer



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Agenda

1. 2021: Credit Manager Recommendations

2. 2021: External Manager Overviews & Recommendation

3. Appendix: Key Highlights of 2019 Fixed Income Strategic Review

2021: Credit Manager Recommendations

- Background

- In December 2019, the Oregon Investment Council approved the Fixed Income Strategic Review in which the fixed income portfolio would be further de-risked so as to more closely align the portfolio with the objectives laid out policy INV401. (For reference, key highlights from the Strategic Review are in the appendix.)
- Fixed Income's role is to (1) provide diversification to the OPERF portfolio in general and to equity securities in particular; and, (2) provide liquidity to help meet OPERF's cash flow needs.
- Today's recommendations are a continuation of the new manager recommendation & approval process that began at the June 3rd, 2020 OIC meeting (2 global sovereign and 3 emerging market debt managers approved) and the September 9, 2020 OIC meeting (3 structured products managers approved). The global sovereign and emerging markets managers were funded earlier in 2021 with funding of the structured products managers, pending final IMA negotiations, expected 3Q/4Q of this year.

- Investment Grade and Non-Investment Grade Credit Manager Recommendations

- OIC Board Members have additional manager background information included in their packets.
- Investment Grade: Fidelity Institutional Asset Management ("Fidelity")
 - Up to \$500MM.
- Non-Investment Grade: Beach Point Capital Management ("Beach Point")
 - Up to \$250MM.

Notes:

- Selections subject to satisfactory negotiation of all terms and conditions.

Agenda

1. 2021: Credit Manager Recommendations

2. 2021: External Manager Overviews & Recommendation

3. Appendix: Key Highlights of 2019 Fixed Income Strategic Review

2021: External Manager Overviews

OIC Board Members have additional manager background information included in their packets.

- Fidelity

- Firm:

- \$4TN AUM (6/30/21) with \$1.5TN in fixed income and \$10.5BN in investment grade credit.
 - 222 fixed income investment professionals.

- Team:

- 6 credit portfolio managers, 64 credit researchers, 20 quantitative analysts and 28 traders.
 - Lead PM's are Matt Bartlett, Jay Small, Ben Tarlow and David Protho.

- Mandate Strategy:

- Total return strategy investing in investment grade fixed income credit securities that can offer favorable risk/reward characteristics.

- Beach Point

- Firm:

- \$16.8BN AUM (6/30/21).
 - 55 investment professionals.

- Team:

- 9 portfolio managers, 2 co-CIOs and 30 credit researchers/industry analysts supported by broader fixed income team of risk and legal professionals. 1 PM and both co-CIOs/founders are also legally trained.
 - Lead PM is Sinjin Bowron with co-PMs Allan Schweitzer and the 2 founders/co-CIOs (Carl Goldsmith, Scott Klein).

- Mandate Strategy:

- Total return strategy focusing on high conviction ideas centered around 3 key attributes: (1) value identification through intensive due diligence, (2) focus on downside protection, and (3) risk management / portfolio diversification.

Recommendation

Recommendation

- For OIC approval, OST Staff recommends hiring
 - Fidelity for a new investment grade mandate in an amount up to \$500MM, and
 - Beach Point for a new non-investment grade mandate in an amount up to \$250MM.

Agenda

1. 2020: Structured Credit Products Manager Recommendations

2. 2020: External Manager Overviews & Recommendation

3. Appendix: Key Highlights of 2019 Fixed Income Strategic Review

Background / Objectives

Putting Fixed Income in Context

- Oregon Investment Council (OIC) Oversight
 - The OIC sets policy and is ultimately responsible for the Investment Program
 - The OIC is a policy-setting council that largely delegates investment management activities to the Oregon State Treasury (OST) and qualified external fiduciaries.
 - The OIC has authority to set and monitor portfolio risk. Both short term and long term risks are critical.
- Role of Fixed Income in Oregon Public Employees Retirement Fund (OPERF) = Diversification & Liquidity
 - The role of fixed income investments, pursuant to policy INV 401:
 - provide diversification to the OPERF portfolio in general and to equity securities in particular; and
 - provide liquidity to help meet OPERF's cash flow needs.
- Fixed Income Strategic Review Objective = Enhance Diversification & Liquidity
 - Objective: determine whether the fixed income portfolio asset allocation can be enhanced to improve upon current diversification & liquidity benefits.
- OST staff worked with BlackRock on the Strategic Review
 - OST provided inputs, feedback & guidance on preferred model portfolios.
 - BlackRock ran the asset allocation analytics given OST's guidance.
 - Callan and Guggenheim Partners also undertook an independent analysis.

Fixed Income's Role: Providing Diversification and Liquidity for OPERF

2019 Strategic Review: Executive Summary

- Further De-Risk Fixed Income Portfolio To Enhance Diversification & Liquidity
 - Diversification & liquidity benefits can be enhanced by de-risking. De-risking entails:
 - Lowering non-investment & investment grade credit exposure;
 - Increasing US Treasury exposure;
 - Increasing Global Sovereign exposure (ex-US; hedged back to USD); and
 - Adding an OPERF Liquidity Fund “OLF” (high quality portfolio, internally managed)
 - Additional benefit of de-risking: reduced drawdown & improved credit loss stress scenarios.
- Further De-Risking Comes with Trade-Offs
 - While de-risking improves fixed income’s role within the OPERF portfolio, it comes with trade-offs:
 - Increased expected long term volatility (→ higher rate risk); and
 - Lower expected long term returns & carry (→ up in quality, shifting away from higher yielding assets).
- Leverage Helps Mitigate Some of the Trade-Offs of De-Risking & Provides a Safety Buffer in Down Markets
 - Addition of leverage (~12.5% at asset level) improves return potential & Sharpe ratio
 - Additional leverage (~12.5% at asset level) can act as a safety buffer for scenarios such as the following:
 - extended down market timeframes; and
 - capital calls associated with OST Private Market activities.

Further De-Risk Fixed Income Portfolio To Enhance Diversification & Liquidity

Add Leverage to Help Mitigate Some Trade-Offs & Provide a Safety Buffer

2019 Strategic Review: What Was Approved

Portfolio Asset Allocation

- Target Portfolio 2 (Please see next page for details)
- Additional Leverage of 12.5% (total 25% at asset class level)
 - Remaining leverage (~12.5%) to be reserved for scenarios such as the following:
 - extended down market timeframes; and
 - capital calls associated with OST Private Markets activities.
 - Use of leverage above 12.5% would require the approval of:
 - Chief Investment Officer; and
 - Director of Capital Markets.

Policy Benchmark

- Bloomberg Barclays US Aggregate Bond Index for Portfolio 2 (Leveraged 12.5%) with a return target expectation of 15 basis points above the Policy Benchmark over a market cycle.

OST Policy INV 401

- Amend “Section A, Policy Statement” return target expectation to 15 from 25 basis points over a market cycle.
- Amend “Section A, Policy Statement” Policy Benchmark per the above.
- Amend “Section B, (1)” limiting portfolio risk, as measured by tracking error, to “up to 1.0 percent” from “0.5-1.0 percent”.

2019 Strategic Review: Asset Allocation Portfolios

Portfolio 2 was Approved with ability to move to portfolio 3, subject to certain conditions.

Exposure movements refer to changes from Actual Portfolio to Unlevered and Leveraged 12.5% allocations, respectively.

| Fixed Income Asset Classes | Policy Benchmark | Actual Portfolio | Unlevered | Leveraged 12.5% | Leveraged 25% |
|--|------------------|------------------|---------------|-----------------|---------------|
| | | | 1 | 2 | 3 |
| Cash / OPERF Liquidity Fund (OLF) | 0.0% | 4.9% | 18.9% | 24.1% | 28.8% |
| ABS (Credit cards, Autos, Student Loans) | 0.2% | 4.4% | 1.9% | 1.6% | 1.8% |
| Agency MBS | 12.8% | 13.7% | 3.7% | 5.5% | 6.2% |
| CMBS | 1.0% | 2.4% | 5.7% | 5.6% | 5.7% |
| <i>Subtotal Securitized</i> | <i>14.0%</i> | <i>20.5%</i> | <i>11.3%</i> | <i>12.8%</i> | <i>13.7%</i> |
| IG Corporate 1-5 | 5.5% | 5.6% | 0.6% | 1.3% | 1.5% |
| IG Corporate 5-10 | 3.8% | 5.9% | 1.3% | 1.7% | 1.6% |
| IG Corporate 10+ | 4.3% | 2.8% | 0.0% | 0.0% | 0.0% |
| <i>Subtotal IG Corporate</i> | <i>13.5%</i> | <i>14.2%</i> | <i>2.0%</i> | <i>3.0%</i> | <i>3.1%</i> |
| US Treasuries 1-10 | 45.7% | 32.4% | 35.9% | 38.6% | 43.8% |
| US Treasuries 10+ | 9.6% | 10.2% | 15.0% | 14.3% | 14.0% |
| <i>Subtotal US Treasuries</i> | <i>55.3%</i> | <i>42.6%</i> | <i>50.9%</i> | <i>52.9%</i> | <i>57.8%</i> |
| TIPS | 0.0% | 1.3% | 1.4% | 1.6% | 1.6% |
| Global Sovereign (ex-US) (USD Hedged) | 0.0% | 1.0% | 5.7% | 8.1% | 9.3% |
| High Yield | 4.0% | 3.9% | 5.2% | 4.8% | 5.1% |
| Bank Loans | 13.0% | 11.2% | 2.1% | 2.5% | 2.7% |
| <i>Subtotal Non Investment Grade</i> | <i>17.0%</i> | <i>15.2%</i> | <i>7.4%</i> | <i>7.3%</i> | <i>7.8%</i> |
| EM Debt (Hard Dollar) | 0.0% | 0.4% | 2.6% | 2.7% | 2.8% |
| Total | 100% | 100% | 100.0% | 112.5% | 125.0% |

Add OPERF Liquidity Fund exposure of ~14% to ~19%.

Reduce IG exposure from ~14% to ~2-3%.

Increase US Treasury exposure from ~43% to ~51-53%.

Increase Global Sovereign exposure from ~1% to ~6-8%.

Reduce Non-IG exposure from ~15% to ~7%.

Note: Policy Benchmark refers to the Portfolio's disaggregated benchmark per OIC policies.

Further De-Risking the Fixed Income Portfolio

2019 Strategic Review: Implementation Guidelines

- Given the complexity of and amount of fund movements involved in the portfolio realignment, implementation of changes from the Strategic Review would take place at a measured pace over the next 3-6 quarters.
- Internally-managed mandates:
 - US treasuries; US treasury futures; and US TIPS and OPERF Liquidity Fund.
- Step 1 – Manager Searches
 - Initiate searches for new mandates: Global Sovereign /EMD (Hard Currency); Securitized (ABS, Agency MBS, CMBS); and High yield / bank loan. Incumbent managers may be included in searches.
- Step 2 - Funding New Mandates (without using leverage)
 - Depending on timing of onboarding of new managers, funding of mandates may be run in parallel.
 - Global Sovereign / EMD expected to be largely funded with proceeds from reduction in high yield / bank loan mandates.
 - Securitized, OPERF Liquidity Fund, US Treasuries & TIPS expected to be funded with proceeds from a combination of a reduction in investment grade core mandates.
- Step 3 – Leverage
 - Leverage to be added through use of US treasury futures.
 - Given current cash allocation to US treasuries (internally managed and embedded within external core manager portfolios), sales of US treasuries to reach the asset allocation target may be modest.
 - Leverage would be added upon completion of ramp in of US treasury cash portfolio.
- Other
 - To minimize the costs of the realignment, in-kind transfers (to internal or new external managers) and arms-length crossing trades within managers may be considered.

Portfolio Realignment to Occur Over the Next 3-6 Quarters

2019 Strategic Review: Additional Leverage Guidelines

- Utilization of Additional Leverage beyond 12.5%
 - Remaining leverage of ~12.5% to be reserved for scenarios such as the following:
 - extended down market timeframes; and
 - capital calls associated with OST Private Markets activities.
 - For governance and control purposes, use of leverage above 12.5% would require the approval of:
 - Chief Investment Officer; and
 - Director of Capital Markets.
- Leveraging Sequencing Guidelines
 - Given the uncertainty surrounding forecasting down markets (e.g., timing, depth, duration, etc.), OPERF plan needs at the time as well as future fixed income and OPERF portfolio composition, a pre-set proscribed leveraging sequence is not advisable.
 - However, in an extended down market scenario, the following factors would need to be considered:
 - Expected length and/or severity of the downturn;
 - Amount of US treasuries (most liquid, easily sold assets) as well as leverage to hold in reserve in case market downturn extends and/or becomes more severe;
 - Ease and practicality of selling cash securities vs. leveraging via US treasury futures; and
 - Maintaining a reasonable risk level at the asset class and total plan level.

Additional Use of Leverage Warrants Appropriate Controls by Senior Management





OREGON STATE TREASURY

Tobias Read
Oregon State Treasurer

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oregon.gov/treasury

OPERF Investment Grade Corporate Fixed Income Manager Selection

Fidelity Institutional Asset Management LLC (FIAM LLC)

Purpose

Subject to the satisfactory negotiation of all terms and conditions, Oregon State Treasury staff selects Fidelity Institutional Asset Management LLC ('FIAM LLC' or 'Firm') to manage an investment grade credit mandate in an amount up to \$500MM of OPERF Fixed Income in a Separately Managed Account "SMA". FIAM LLC is to serve as the sole mandate in the U.S. Investment Grade Corporate asset class.

Background

Pursuant to INV401, Oregon Public Employees Retirement Fund (OPERF) fixed income investments are to provide diversification from equity exposure and liquidity to meet OPERF's cash flow needs. The Oregon Investment Committee (OIC) directed Oregon State Treasury (OST) staff to conduct a strategic review of the fixed income portfolio based on these two objectives. OST staff worked with BlackRock, Inc to develop model portfolios, with independent analysis by Callan and Guggenheim Partners. Based on the results of the strategic review, staff proposed de-risking the portfolio. The strategic review was presented to the OIC during the December 11, 2019 Committee Meeting and approved for implementation.

Staff began the manager selection process by screening the eVestment US Corporate Fixed Income Universe on trailing five-year: 1) return versus the Bloomberg Barclays US Corporate Investment Grade Index, 2) return versus the peer group median, and 3) information ratio versus peer group median.¹ Candidates that met the initial performance hurdles, approximately half of the original universe, then went through a more comprehensive and iterative quantitative evaluation narrowing the list to five to ten managers. Staff conducted an initial round of due diligence calls with the short list of managers, emphasizing qualitative factors. Candidates were evaluated on ability to articulate the investment process, in particular as applied to specific, recent examples, and synchronicity between portfolio managers, traders, strategists, and researchers. Following the first round of calls, three were selected for further due diligence, which included the completion of a due diligence questionnaire and subsequent four- to six-hour video calls with key members of the leadership, strategy, risk, operations, legal, compliance, and technology teams.² Staff ultimately selected a single strategy, FIAM Investment Grade Credit, to fund the mandate, considering factors such as the small relative size of the allocation and the characteristics of the alternative candidates and the asset class. At the conclusion of satisfactory negotiations, staff will deploy capital according to the new strategic allocation.

Discussion/Investment Considerations

FIAM LLC is a wholly owned, indirect subsidiary of Fidelity Investments (FMR LLC), a privately held company founded in 1946 by Edward Johnson 2nd. The Johnson family remains the predominant owners of FMR LLC, representing 49% of its voting power. Fidelity has managed institutional assets since 1981. As of June 30, 2021, Fidelity Investments had firmwide AUM of \$4 trillion, of which \$1.5 trillion is in fixed income assets and \$10.5 billion in their U.S. Investment Grade Credit strategies. The Firm has 222 fixed income investment professionals with offices in Smithfield, RI (primary headquarters); Boston, MA; Merrimack, NH; London; and Hong Kong.

FIAM Investment Grade Credit is overseen by a portfolio management team consisting of David Prothro, Andrew Lewis, Jay Small, Mike Foggin, Ben Tarlow, Matt Bartlett, Sean Walker, and Michael Schmitt. The management team is supported by:

¹ Analysis based on data in eVestment.

² Video calls were conducted in lieu of on-site visits due to Covid. On-site visits will resume when possible.

- **Research** team consisting of 64 credit analysts. Primary functions include: assigning fundamental and performance ratings; specializing in narrow sectors; and partnering extensively with global equity research teams.
- **Quantitative Analysis** team consisting of 20 analysts. Primary functions include: developing quantitative models to evaluate portfolio risk; quantifying yield curve analytics, relative value assessments; and conducting scenario analysis and simulation.
- **Trading** team consisting of 28 fixed income traders. Primary functions include assessing market liquidity; evaluating primary and secondary market issuance; and minimizing transaction costs.

The Firm believes that active investment management will provide excess risk-adjusted returns over a benchmark given that inefficiencies exist in the fixed income markets, and that both effective quantitative and credit research efforts and highly focused trading can consistently identify opportunities to earn a relative advantage. The strategy is designed to provide value-added performance by adhering to the following principles:

- Team structure that facilitates multi-dimensional investment perspectives resulting in broader and higher quality idea generation
- Fundamental, research-based strategies, issuer and sector valuation, and individual security selection for the generation of durable excess returns
- Implementation of top-down and macro views to help shape overall risk
- Independent quantitative understanding of all benchmark and portfolio risk and return characteristics, with an explicit understanding of all active exposures relative to the investment benchmark
- De-emphasis on interest rate anticipation based on the belief it is a low probability higher risk endeavor

The Firm concentrates resources where they have the greatest competitive advantage and can add the most value. Thus, the process is supported by an extensive team of credit analysts, macroeconomic analysts, quantitative analysts and specialized traders. Together with the portfolio managers, they seek to construct highly diversified portfolios, carefully weighing the potential risk and return impact of each security in a total portfolio context.

Conclusion

FIAM LLC impressed us throughout the due diligence process from their stellar performance to the team's ability to simply and clearly articulate their investment process. The team's high level of due diligence, fundamental research, and ability to identify undervalued securities is proven throughout their historical attribution which shows that more than 80% of excess return versus its benchmark has been driven by security selection. OST staff selected FIAM LLC to partner on the U.S. Investment Grade Corporate mandate due to the Firm's collaborative team-based culture that draws on the expertise and resources of the entire Fidelity organization, the depth of their fundamental research, their consistently competitive risk-adjusted performance relative to their benchmark and peers, and an established investment process that gives us confidence their historically strong results are repeatable.

Recommendation:

OST Staff recommends hiring Fidelity to manage up to \$500MM in the new investment grade credit mandate.

OPERF U.S. High Yield/Bank Loan Fixed Income Manager Selection
Beach Point Capital Management LP

Purpose

Subject to the satisfactory negotiation of all terms and conditions, Oregon State Treasury staff selects Beach Point Capital Management LP (“Beach Point” or “Firm”) to manage a high yield credit mandate in an amount up to \$250MM of OPERF Fixed Income Assets in a Separately Managed Account “SMA”.

Background

Pursuant to INV401, Oregon Public Employees Retirement Fund (OPERF) fixed income investments are to provide diversification from equity exposure and liquidity to meet OPERF’s cash flow needs. The Oregon Investment Committee (OIC) directed Oregon State Treasury (OST) staff to conduct a strategic review of the fixed income portfolio based on these two objectives. OST staff worked with BlackRock, Inc to develop model portfolios, with independent analysis by Callan and Guggenheim Partners. Based on the results of the strategic review, staff proposed de-risking the portfolio. The strategic review was presented to the OIC during the December 11, 2019 Committee Meeting and approved for implementation.

Staff began the manager selection process by screening the eVestment US High Yield Fixed Income Universe and US Floating-Rate Bank Loan Fixed Income Universe on trailing five-year: 1) return versus the appropriate benchmark, 2) return versus the peer group median, and 3) information ratio versus peer group median.¹ The lists of candidates that met the initial performance hurdles in each universe, approximately half of the original universe, were then compared to identify common managers. The common managers then went through a more comprehensive and iterative quantitative evaluation narrowing the list to five to ten managers. Staff conducted an initial round of due diligence calls with the short list of managers, emphasizing qualitative factors. Candidates were evaluated on ability to articulate the investment process, in particular as applied to specific, recent examples, and synchronicity between portfolio managers, traders, strategists, and researchers. Following the first round of calls, three were selected for further due diligence, which included the completion of a due diligence questionnaire and subsequent four- to six-hour video calls with key members of the leadership, strategy, risk, operations, legal, compliance, and technology teams.² Staff ultimately selected a single manager, Beach Point, to fund the mandate. Staff considered factors such as the size of the allocation to the asset class and the characteristics of the asset class and alternative candidates. At the conclusion of satisfactory negotiations, staff will deploy capital according to the new strategic allocation.

Discussion/Investment Considerations

Beach Point was established on January 1, 2009 when founding partners, Carl Goldsmith and Scott Klein, consummated a management buyback of the alternative investment business of Post Advisory Group, LLC (the “Predecessor Firm”). Messrs. Goldsmith and Klein joined the Predecessor Firm as its first and second investment hires in 1994 and 1997, respectively. Together they served as Portfolio Managers responsible for its multi-billion dollar alternative fixed income business, investing in opportunistic high yield, senior loans, and distressed debt. Other founding members of Beach Point included 30 professionals, all of whom worked together at the Predecessor Firm. Of those professionals, 19 are still employed at Beach Point, including the Co-CEOs/Co-CIOs. Beach Point is 100% owned by Carl Goldsmith and Scott Klein. As of June 30, 2021, the Firm had \$16.8 billion in AUM. Beach Point has offices in Santa Monica, CA (Headquarters); New York, NY; Dublin, Ireland; and London, U.K.

¹ Analysis based on data in eVestment.

² Video calls were conducted in lieu of on-site visits due to Covid. On-site visits will resume when possible.

The strategy is managed by co-CEO/CIOs Carl Goldsmith and Scott Klein, and portfolio managers Sinjin Bowron and Alan Schweitzer. The management team is supported by, and interconnected with:

- **Risk Analysts.** Focused team of professionals devoted to proactive risk analysis; proprietary tools including internally-developed data warehouse, software-based analytics and sensitivity testing.
- **Industry Analysts.** Large team with deep expertise across sectors through full investment lifecycle; long-term relationships with company management teams; incentives in place to encourage “one firm” approach.
- **Legal Professionals.** Dedicated legal group embedded within the team; key “edge” versus peers; analyze legal covenants, bond indentures and restructuring agreements.

Beach Point believes that optimal performance is achieved through the consistent identification of three specific attributes: (1) Value identification through intensive due diligence; (2) Focus on downside protection; and (3) Risk management and portfolio diversification.

Value Identification and Intensive Due Diligence: Beach Point’s investment team favors the more complex, under-followed and misunderstood investment opportunities that comprise the credit markets. They believe the market is less efficient in this area and that these investments offer the highest probability of being mispriced in the consensus view. Their years of experience and legal expertise have demonstrated the team’s ability to spot inefficiencies between actual value and the market price of securities. Several of their analysts also are legally trained which helps identify market anomalies due to legal misunderstandings of complex covenants and indentures. Ultimately, Beach Point pursues a bottom up, value-oriented approach and constantly searches for “bargains,” creating above-average capital appreciation potential. They seek to identify positive catalysts for value realization – legal, process-driven, or company-specific. Investments with the potential of adding value to the portfolio are reviewed, considering both current yield and potential price appreciation. Each investment is analyzed with a view towards “best,” “worst” and “most likely” outcomes. Generally, an investment should have a compelling value in the “most likely” scenario and an acceptable outcome in a “worst” case alternative.

Focus on Downside Protection: Beach Point seeks to prevent losses by emphasizing investments with a “margin of safety.” They typically prefer secured bonds and loans, structurally senior investments and/or investments with strong underlying assets or franchise value. Downside risk is also limited through intensive research, value orientation and extensive legal analysis. Beach Point prefers to avoid momentum-driven investments and situations with “binary” outcomes on the downside. Their labor-intensive research process emphasizes qualitative analysis that is based on judgment and experience.

Risk Management: Beach Point places a premium on strong risk management and strives to manage risk throughout the investment process. Investment risk is mitigated through intensive due diligence and focus on investments with a margin of safety. Organizational risk is limited through use of top-tier service providers, including PricewaterhouseCoopers (auditor), The Bank of New York Mellon and Citco Fund Services (USA) Inc. (administrators), and IFS (back office provider).

Conclusion

Beach Point is an independent, boutique asset management firm that focuses on a limited number of specialized credit strategies. The level of specialization and expertise that they bring to the asset class has consistently earned them (and their clients) peer topping performance. OST staff selected Beach Point to partner on the U.S. High Yield/Bank Loan mandate due to the Firm’s strong depth of credit research, knowledge, and due diligence across the capital structure; their embedded, in-house legal expertise that is

important to analyzing complex covenants, bond indentures, and restructuring proposals; their consistently competitive risk-adjusted performance relative to the benchmark and peers; and an established investment process that gives us confidence their historically strong results are repeatable.

Recommendation:

OST Staff recommends hiring Beach Point to manage the new high yield credit mandate in an amount up to \$250MM.

TAB 4 – Responsible Investing: Choices and Consequences

TAB 5 – ESG Update

Oregon Investment Council

Update on Environmental, Social, Governance Initiatives

September 8, 2021



OREGON
STATE
TREASURY

Agenda:

- Introduction
- Contract with climate consultant for portfolio analysis
- Formal integration of ESG into private equity and other manager due diligence

Climate Consultant Engagement

- Latest step in Treasury's work to better understand climate risks to portfolio and formalize ESG factors into our investment decision-making
- Climate work in ESG space is continuously evolving
 - Improved tools to identify stranded assets, evaluate portfolio carbon footprint, model potential outcomes based on application of transition risks
- Climate risk as systematic risk could have broad economic impact
 - Staff already works with investment managers and consultants to better understand climate risk at the individual asset level
 - Understanding climate risk at the **total portfolio level**, with an emphasis on forward-looking metrics, requires outside help offering complex tools & econometric analyses that account for uncertainty and interconnectivity of factors being modeled

New Consultants: Manifest Climate & Ortec Finance

Manifest Climate (“Manifest”)

- Toronto-based, interdisciplinary climate strategy firm
- Provides educational services and bespoke consulting services, such as helping clients to define and implement a climate governance & risk management framework

Ortec Finance (“Ortec”)

- Headquartered in Rotterdam
- Designs and applies modeling solutions for asset-liability management, risk management, and climate risk
- Has partnered with Cambridge Econometrics and uses their global, macro-econometric model as input

Climate Impact Analysis: Project Phases

- 1. Education sessions.** Manifest is facilitating three Climate Change Education sessions with Investment Division and other Treasury staff (syllabus on slide 6).
- 2. Scenario modeling.** Ortec modeling will use indices based on OPERF's investment allocations. The proxy mix will run through Ortec's analytic engine to generate estimated scenario outcomes (see slides 7-8 for info on Ortec's analysis and illustrative output).
- 3. Output interpretation.** Assisted by Ortec, Manifest will help Treasury interpret output from the modeling, specifically the prospective risks & opportunities for OPERF due to physical and transition responses to climate change.

Climate Consultant

Education: Learning Objectives



- Explore what climate change is and its importance to financial markets
- Understand the global climate policy drivers and ecosystem of international bodies
- Understand action on climate change by financial markets and regulators
- Introduction to climate scenario analysis
- Begin to understand how climate change poses risks and opportunities for asset owners
- Recognize the difference between and need for climate adaptation and mitigation
- Explore risk and opportunity exposure pathways in industry context
- Begin to identify information needs between asset owner and asset manager
- Different types of climate scenarios and scenario analyses used today
- How financial and non-financial companies can use climate scenario analysis

Climate Consultant Analysis



ORTEC – E3ME

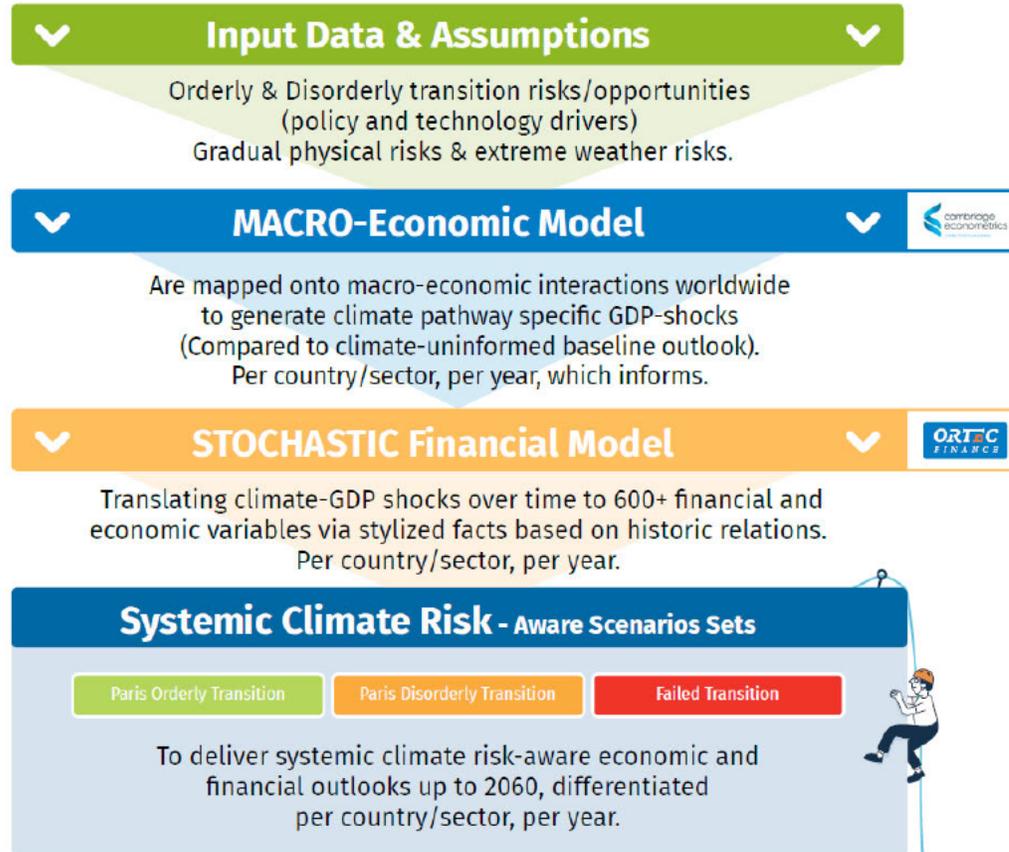
EXAMPLE INPUT POLICIES

- Carbon/energy tax, emission trading schemes
- Renewables subsidies, feed-in tariffs
- Technology investment subsidies
- *And many other policy levers*

EXAMPLE OUTPUTS

- GDP
- Sector output
- Inflation and prices
- CO2 emissions
- Electricity generation mix
- Technology mix by emissions intensive sector
- Employment
- Oil and gas prices
- *And many others indicators, available on request*

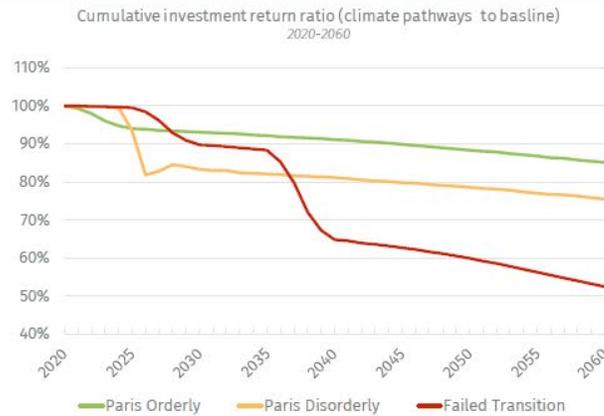
Combining well-established climate science with respected econometric and financial modelling



Climate Consultant

Illustrative Output, Portfolio-Specific Financial Projections

Total Portfolio Impacts

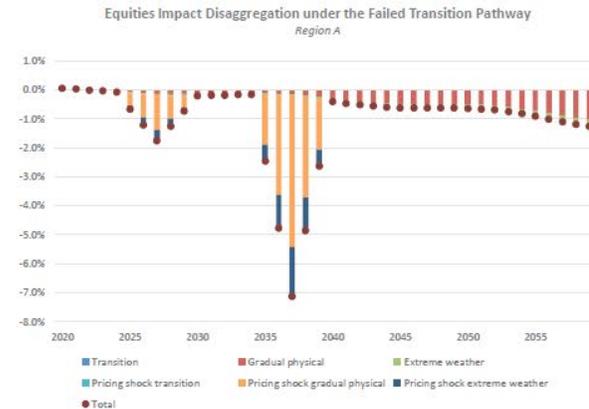
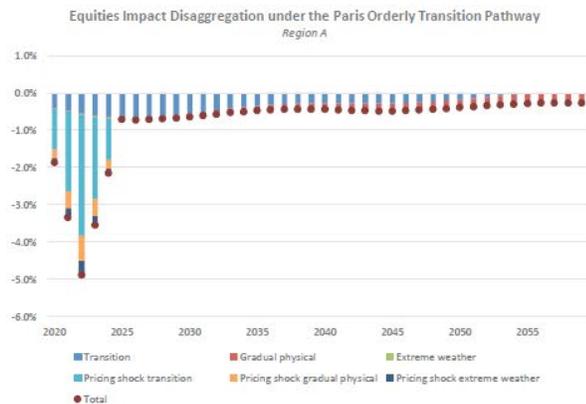


Sector-Region Heatmaps: Cumulative Returns - Public Equities

| 20Y | Total | Cons Staples | Industrials | Telecom | Energy | IT | Materials | Health | Real Estate | Other utilities | Cons Disc | Low carbon electricity | Financials |
|--------------|--------|--------------|-------------|---------|--------|--------|-----------|--------|-------------|-----------------|-----------|------------------------|------------|
| World | 4.1% | 7.2% | 7.0% | 6.0% | 11.2% | 8.2% | 7.0% | 6.5% | 7.0% | 6.1% | 7.2% | 6.1% | 7.2% |
| Dev. Markets | 4.1% | 1.9% | 4.9% | 4.4% | 12.6% | 5.4% | 4.3% | 4.8% | 4.8% | 4.1% | 5.4% | 11.1% | 4.3% |
| Em. Markets | 8.0% | 10.7% | 7.7% | 12.1% | 16.7% | 9.4% | 8.6% | 11.7% | 10.7% | 7.5% | 7.7% | 56.0% | 7.8% |
| Malaysia | 3.4% | 0.2% | 3.2% | 4.2% | 18.4% | 1.6% | 0.3% | 2.1% | -1.0% | -19.2% | -2.1% | 20.6% | -2.2% |
| Japan | 1.7% | 0.6% | 0.9% | 4.1% | -18.5% | -0.1% | 0.1% | -1.0% | 5.7% | -13.9% | 0.1% | 17.4% | 4.6% |
| Singapore | 0.9% | -0.8% | -1.6% | 3.7% | -19.6% | -1.4% | -0.9% | 9.2% | -2.3% | -22.6% | -1.8% | 4.84% | 2.6% |
| Sweden | -0.8% | 1.2% | -1.2% | 1.1% | 19.2% | 0.7% | -1.8% | 0.8% | 0.2% | -11.0% | -1.7% | 9.8% | 0.8% |
| Denmark | -1.6% | -2.6% | -1.6% | -1.2% | 17.1% | -1.2% | -2.1% | -0.5% | 0.7% | -14.7% | -2.9% | 9.5% | 0.4% |
| Brazil | -11.1% | -2.3% | -2.9% | -2.3% | -53.9% | -5.0% | -5.6% | -3.3% | 0.1% | -36.6% | -2.6% | 11.5% | -3.3% |
| Norway | -12.4% | -4.9% | -6.4% | -7.3% | -33.6% | -16.3% | -5.0% | -1.7% | -6.4% | -11.6% | -3.0% | 5.2% | -5.7% |
| Italy | -15.3% | -0.9% | -3.8% | -1.7% | 29.1% | -2.9% | -3.4% | -3.3% | -2.9% | -76.8% | -4.6% | 75.0% | -4.7% |
| Russia | -18.0% | 13.9% | 2.0% | 38.3% | 19.9% | 10.7% | 1.8% | 3.1% | 2.1% | -43.8% | -0.5% | 292.1% | -1.9% |
| Canada | -20.7% | -11.5% | -14.1% | -17.8% | -46.9% | -10.4% | -13.6% | -12.2% | -13.8% | -55.7% | -10.3% | 8.2% | -6.2% |

* Low carbon electricity is separated from other utilities using the share of low carbon electricity generation in total electricity supply. NAEC sectors (consistent with ERM classification) are mapped to broad HSI sectors.
 ** Indonesia's low carbon electricity sector is currently very small, therefore the relative growth in this sector is extremely large. Given that this sector is currently very small, the impact shown is extremely sensitive to the assumptions made, which may influence accuracy.

Disaggregation to climate risk factors



Next Steps

- Foster internal staff discussions around climate impacts to the portfolio: investment staff knows the portfolio best – we'll look to asset class teams for best judgment on what-if/alternative scenario modeling
- Use metrics to raise questions and identify areas of focus
- Convene discussions among asset class teams to ensure ESG metrics complement investment strategies

Manager Due Diligence

- ESG Champions
- ESG and Diversity & Inclusion in the due diligence process
- Recent examples

ESG Champions

- In 2020, OST's private market "ESG Champions" (Ahman Dirks, Faith Sedberry, Sam Spencer with oversight from Anna Totdahl) began leading an initiative to more formally integrate ESG and D&I factors into Treasury's due diligence process.
- Work builds on previous efforts plus recent formalization of ESG and D&I into Treasury's investment beliefs.

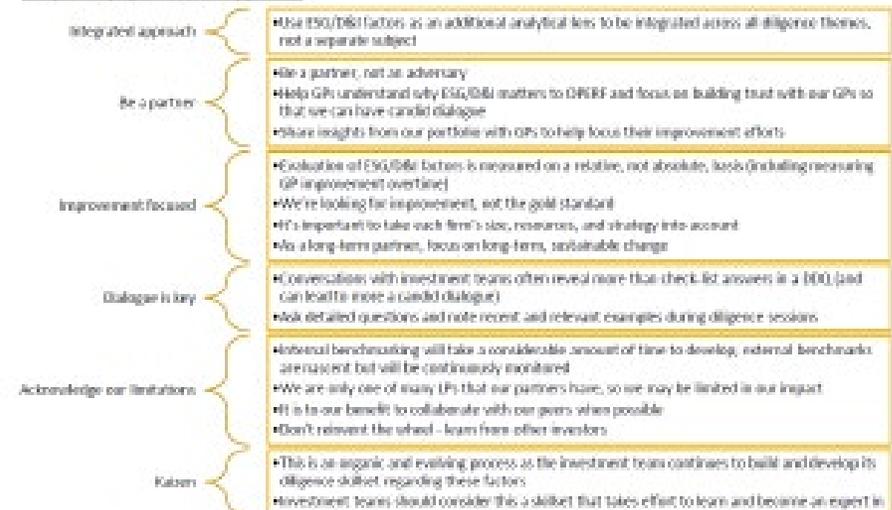
OPRF Private Markets ESG/D&I Integration Plan

A private markets team approach to incorporating the OIC Investment and Management Beliefs regarding Environment, Social, Governance, Diversity, and Inclusion factors.

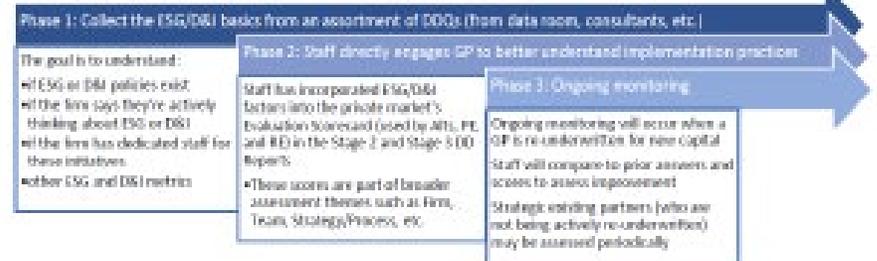
INV 1201: Statement of OIC Investment and Management Beliefs - NS and #6:

- ESG: THE INTEGRATION OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) FACTORS, SIMILAR TO OTHER INVESTMENT FACTORS, MAY HAVE A BENEFICIAL IMPACT ON THE ECONOMIC OUTCOME OF AN INVESTMENT AND AID IN THE ASSESSMENT OF RISKS ASSOCIATED WITH THAT INVESTMENT.**
 - The consideration of ESG factors within the investment decision-making framework is important in understanding the near-term and long-term impacts of investment decisions.
 - The OIC believes that understanding how societal and environmental factors impact investments is an important step towards building a more sustainable portfolio.
 - Over time, there has been an evolution of multi-factor, or more holistic, approaches, to identify opportunities and mitigate risks, in a large globally-diversified investment portfolio.
 - ESG data collection aligns our ability to proactively monitor and monitor risks and returns. Data identified ESG risk mitigation strategies can be implemented and proactive ESG transition strategies pursued, subject to statutory/advisory obligations.
- DIVERSITY, IN ALL ASPECTS, IS ACCESSTIVE TO MEETING OIC OBJECTIVES**
 - By embracing and enhancing diversity and inclusion efforts, the OIC ensures that the investment program will be exposed to and advised by a wide range of perspectives, ideas and opinions.
 - The OIC believes a wide range of perspectives, ideas and opinions will ultimately produce better investment outcomes.

The philosophy behind our approach:



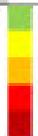
Implementation:



ESG Champions

- Goal: develop a qualitative assessment to evaluate a manager's application and integration of ESG and D&I factors into the management of investments and their business.
- Use that assessment throughout the due diligence process as managers are evaluated and approved.

ESG/D&I Components of Evaluation Scorecard and Sample Diligence Questions
 The following diligence questions are not sector or strategy specific and can be asked across all private market diligence. Additional questions related to each asset class or underlying strategy will be needed. One of the salient value enhancements of this evaluation scorecard and the sample diligence questions is that it will remain a living document that will continue to evolve and become more finely tuned over time. The color coding provides a visual representation of how well a GP is performing and reflects the balance that is sought between subjectivity and objectivity as it relates to the variable characteristics of each GP, asset class, strategic focus, among others.

| EVALUATION SCORECARD | |
|--|---|
| CATEGORY | SCORING GUIDELINES |
| FIRM | |
| Firm Approach to ESG |  <ul style="list-style-type: none"> • Comprehensive and recently updated ESG / responsible investment policies in place w/ clear process for implementation/adherence, utilize KPIs at firm, portfolio company, or reporting partner level that reflect materiality; ESG appears core to GP proposition; evidence of commitment to D&I • May have some policies in place, but documentation may have gaps or shortcomings; lack active participation in ESG initiatives • Assessed to be of low importance at firm-level with no policies in place |
| SAMPLE DUE DILIGENCE QUESTIONS: | |
| <ul style="list-style-type: none"> • Do you have a policy that describes your approach to identifying and managing ESG factors within the investment and portfolio management processes? If so, please provide a copy. If not, please indicate whether you would consider adopting a responsible investment policy. • What is the current implementation status of your responsible investment policy? Do you have any firm plans to develop your approach towards the management of ESG factors? • Does the firm maintain a labor policy, or "Responsible Contractor Policy" or similar document regarding your philosophy regarding labor relations? If so, please provide a copy of such a policy or document. • Do you make formal commitments relating to ESG integration in fund formation contracts, Limited Partnership Agreements or in side letters when requested by investors? • Which channels do you use to communicate ESG-related information to LPs? Can you provide samples of ESG-related disclosures from an earlier fund? If not, please indicate whether you would consider introducing ESG-related disclosures. • Is the management of ESG factors included on the agenda of the limited partners advisory committee and/or Annual General Meeting? • Describe your approach to disclosing and following up on material ESG incidents to your LPs. • Does the fund produce periodic sustainability reports and make them available to investors that disclose your sustainability performance? If so, how often? Please provide a copy. • Does the fund use environmental benchmarks? Identify all. (DRISS, EnergyStar, DRI, Greenprint, Other) • Do you commit to any international standards, industry (association) guidelines, reporting frameworks, or initiatives that promote responsible investment practices? • Is your firm a signatory to the Principles for Responsible Investment (PRI) or a similar organization? Provide a copy or link to your most recent PRI assessment. • How can LPs monitor and, where necessary, ensure that the fund is operating consistently with agreed-upon ESG-related policies and practices, including disclosure of ESG-related incidents? • Does your firm dedicate staff and/or other resources to ESG issues? Committee/Task Force? Dedicated staff? • Do you provide training, assistance and/or external resources to your staff to help them understand and identify the relevance and importance of ESG factors in investment activities? If so, please describe what level of training is provided. • Please describe how (i) oversight responsibilities, and (ii) implementation responsibilities for ESG integration are structured within your organization. Please list the persons involved and describe their role, position within the organization and how they are qualified for this role. Please also describe any external resources you may use. • How do you evaluate and monitor compliance with your ESG practices? • Does each staff prepare periodic reports on its review and evaluation of such ESG and are such reports reviewed by senior management? | |
| TEAM | |
| ESG Resources and D&I |  <ul style="list-style-type: none"> • Key decision makers are involved in and have vested interest in ESG/D&I matters. May include dedicated ESG personnel, but this is not mandatory nor does having dedicated ESG personnel guarantee a high rating in this category. Individual(s) should be primarily focused on ESG implementation of particular strategy (not just firm-wide). Workforce is diverse and inclusive at all levels (firm-wide, investment professionals, senior investment professionals, and firm ownership) • Assessed to be average • No dedicated ESG staff at strategy or firm level; team lacks diversity across all levels. |
| SAMPLE DUE DILIGENCE QUESTIONS: | |
| <ul style="list-style-type: none"> • Describe your firm's approach to diversity. What initiatives, if any, does your firm have in place to ensure diversity throughout the organization? • Please provide your firm's demographics for staff, including male/female, minority/minority for entire staff, investment professionals, senior investment professionals and firm ownership • How do you evaluate and monitor compliance with your ESG practices? | |

ESG, D&I in the Due Diligence Process

- Informed by the work and leadership of the ESG Champions, ESG and D&I are evaluated across all stages and elements of the due diligence process.
- ESG and D&I are focus areas for desktop diligence, site visits, referencing, monitoring, etc.
- Treasury staff's views are formally captured and findings are included in the broader scoring across the “firm,” “team,” “strategy,” and “track record” factors.
- ESG and D&I approaches, focus areas, and nomenclature vary significantly from manager to manager, making portfolio-level aggregation challenging.

| 2. Scoring Summary | | |
|----------------------|------------|--|
| Criteria | Rank | Comments |
| Firm | 2.0 | <ul style="list-style-type: none"> The firm is owned by the senior partners. The firm operates with full autonomy and control over their business. There is a 500M LP commitment in the fund. This is above market for open-end funds, but will come from firm cash and will remain invested over the full life of the vehicle. The team business are directly tied to the performance of the fund. The Firm's ESG Steering Committee is made up of senior management across multiple disciplines within the Firm. The Firm has identified long-term, quantifiable objectives in its policy. |
| Team | 3.0 / 3.0 | <ul style="list-style-type: none"> The team has demonstrated a strong track record of its senior leadership team. The team is long-tenured with deep market expertise. The Firm is comprised of 300+ employees across 10 offices. The most junior member of the investment committee has 10 years of experience at the Firm. The senior team has extensive tenure together, with the exception of the lead Asset Manager. However, they bring extensive experience in the associated strategy. The Firm has set measurable DEI goals within the Firm's ESG policy and has been transparent and engaged on the subject in discussions with Staff. |
| Strategy/Process | 3.0 / 5.0 | <ul style="list-style-type: none"> The fund has a strategic, research-based focus on development assets that require specialized expertise in valuing and assessing population and tax incentives. The Firm has remained highly disciplined in its research-driven approach in all aspects of the investment lifecycle, including strategy, acquisitions, and active asset management. The Fund provides access to a segment of the real estate space where the DPRE Real Estate Partners currently does not have dedicated exposure. The fund partners, with 10+ dedicated acquisition professionals, will help generate deal flow across the fund's 10+ target markets. ESG elements are incorporated into the full investment process. |
| Track Record | 3.0 / 3.0 | <ul style="list-style-type: none"> The Firm has a strong track record in this strategy, with top quartile performing funds since its inception. Each fund in the value-add series continue to increase in size with each vintage, which is expected for a Firm experiencing growth, but continues to be monitored by Staff. |
| Terms and Conditions | 3.0 / 3.0 | <ul style="list-style-type: none"> The fund investments will have a 10+ bp asset management fee, representing a market-rate fee relative to most open-end fund fees. As an open-ended fund, the fund will have some degree of quarterly liquidity following an initial two-year lock-up. Although the Firm does not expect any meaningful overlap between the fund's objectives and its separate accounts, if an asset fits the criteria for multiple portfolios, the allocation policy is in place. DPRE will have an LPAC seat. |
| Other | 2.0 | <ul style="list-style-type: none"> The Fund's strategy adds further diversification of property type and sector profile to DPRE's real estate portfolio. |
| TOTAL | 3.0 / 20.0 | |

ESG & DEI (2021)

ESG is a core business and promoting diversity, equity, and inclusion (DEI) within the Firm as well as its boards, portfolio companies, advisors, and communities. We believe that success means equality of opportunity for all people and that therefore creating an inclusive environment that values diversity of backgrounds, experiences, ideas, and opinions. Involving diversity efforts across all management groups supports our most important asset – its employees – and is a competitive advantage that enables senior leadership. ESG's mission is centered on four pillars of diversity and inclusion: development, recruitment, retention, and culture. Under each pillar, the Firm has a set of guiding principles which ESG seeks to accomplish by shaping its internal policies and holding itself accountable on a short-term and long-term basis for change.

In 2020, ESG established its Stakeholder Committee, comprised of senior members across the product spectrum, both investment and non-investment professionals, and across major markets, Europe, Asia, and Latin America. In addition to the core set committees, the firm has numerous cross-functional employee-led teams or task forces that are key to our success.

In North America, the local DEI committee established four sub-committees dedicated to Education & Learning, Payroll, Finance & Operations, and Community & Philanthropy to further drive change. Similarly, in Europe, the European DEI committee established sub-committees dedicated to Learning, Payroll, Development & Retention, and Culture. Through these sub-committees, ESG is spearheading local community involvement with a focus on social impact, including and implementing changes to existing processes. Beginning diversity within its portfolio companies through diversity programs for portfolio company employees in partnership with external business leaders, and working with third party vendors to increase representation of underrepresented groups on ESG accounts.

2021 ESG Update: As the firm of business in society continues to evolve, ESG believes to focus on responsible investment offers positive change as well as improved performance. ESG's current actions as a responsible investor include: assessing a firm's operations, adopting a systematic approach to climate change, participating in global forums and third-party assessments, increasing communication with stakeholders, ongoing development of best practices across portfolio companies, increasing use of metrics to measure the performance, and developing a more structured reporting program.

ESG

ESG provides an annual report for each investment platform that identifies material risks and opportunities for its portfolio companies. These reports focus on managing and reducing ESG issues within a company, energy & waste management, data security, ESGM, safety, and climate change risk. The annual report is well detailed in objectives and reports on the current status of each ESG issue.

DEI

ESG was recognized as the "ESG Champion" globally by the Equality Group in March 2021. The Equality Group is a leading social investing firm that focuses on ESG in the financial industry. This recognition was a strong affirmation of ESG's commitment and work on ESG and DEI in the firm and across its portfolio, including capital, DEI support, working conditions, diversity policies, and transparency when reporting diversity data. ESG's DEI Mission Statement has four pillars, with associated values and methods to pursue progress in each:

- 1. Development**
 - a. Increase leadership, culture, and talent
 - b. Promote and highlight all professional skills
 - c. Foster diversity and inclusion programs
 - d. Monitor and evaluate performance programs across all levels
 - e. Engage external stakeholders on ESG topics
 - f. Increase DEI survey with feedback incorporated into the annual action items
- 2. Retention**
 - a. Focus on diversity in recruiting as an event by considering recruitment pipelines through the utilization of a variety of internal and external programs
 - b. Implement a specific firm-level candidate list that has a diverse candidate list for all hires globally
 - c. Setting up a diversity people panel (similar to the investment industry panel) concept program to track diverse candidates, regularly
- 3. Inclusion**
 - a. DEI training program to support all family structures, genders, and sexual orientation
 - b. Support personal professional growth and promote ongoing professional learning through webinars to build community and an inclusive culture
 - c. Support and roll out internal inclusion programs including women's inclusion network and LGBTQ+ self-identifying group
- 4. Culture**
 - a. Communication statement outlining culture pillars
 - b. Increase communication and transparency on DEI initiatives with regular communication to gain broader market equity
 - c. Foster internal DEI education and awareness on all business lines, divisions and formal events
 - d. Recognize the "most inclusive" private equity firm globally by the Equality Group

ESG has established 30 metrics partnerships with the following organizations:

- **ESG (Driving Policy Impact)** serves professionals of color who are traditionally underrepresented in the investment sector. ESG focuses on retention and reporting to progress from the position in FY 2020 to FY 2021 regarding its partnership with ESG in the Latin America and Europe
- **Green 40** association for increasing greater diversity in the PE industry, with a goal of 20% of senior roles being held by women. ESG has been an active participant since 2013, is a member of the Advisory Council, and is on the Green 40 Steering Committee.
- **Harvard Business School – DEI** is collaborating with ESG on the DEI Leadership Academy to provide high-potential diverse leaders at portfolio companies with the knowledge and skills to accelerate their professional development.
- **IFPE – DEI** (Investment Professionals for Diversity in Finance) Initiative in 2021 to focus on driving DEI both internally and in the industry.
- **Out Investors** (OIG) Network was founded with the mission to advance the LGBTQ+ individuals in the investment industry. Our investors focus on diversity, inclusion, equity, and inclusion, membership in the industry.
- **The Robert Taft Foundation's** (RTF) Fellowship for minority parenting careers in finance. Provides leadership training and mentoring programs and offering access to career opportunities.

See disclosure as part of our ESG to learn more about our ESG, climate risk, and gender data. ESG's diversity efforts are not only a core business strategy but also a key to our success. ESG is committed to increasing diversity in the industry and across all levels of our organization.

Recent Examples

Industry Analysis

| AREAS | ACCOUNTING METRICS |
|--|--|
| Environment | Total energy consumed, percentage and electricity, percentage renewable Water withdrawn and consumed, percentage per region in areas with high baseline water stress Discussion on how to integrate environmental considerations into strategic planning for data center needs |
| Data Privacy & Freedom of Expression | Description of policies and practices relating to behavioral advertising and user privacy Number of users whose information is used for secondary purposes Total amount of monetary losses as a result of user proceedings associated with user privacy Number of law enforcement requests for user information, number of users whose information was requested, percent List of countries where core products or services are subject to government required monitoring, blocking content filter |
| Data Security | Number of data breaches, percentage involving personally identifiable information, number of users affected Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity services |
| Recruiting & Managing a Global, Diverse, and Skilled Workforce | Number of employees that are foreign nationals and located offshore Employee engagement as a percentage Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, (3) other employees |
| Intellectual Property Protection and Competitive Behavior | Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulator |
| Managing Systemic Risks from Technology Disruptions | Number of performance issues, service disruptions, and customer downtime Description of business continuity risks related to disruptions of operations |
| ACTIVITY METRICS | |
| | Number of servers or subscriptions, percentage cloud-based Data processing capacity, percentage outsourced Amount of data storage, percentage outsourced |

Physical Climate Risk

Summary Findings

Assessment Date: 07/07/2021 Benchmark: Four Twenty Seven Methodology: 2021.1

| Climate Hazard | Risk Level | Site Score | Country Benchmark |
|-----------------------|------------|------------|-------------------|
| Floods | Low | 16 | 23 |
| Heat Stress | Medium | 47 | 65 |
| Hurricanes & Typhoons | High | 95 | 50 |
| Sea Level Rise | None | 0 | 6 |
| Water Stress | Medium | 64 | 59 |
| Wildfire | High | 62 | 64 |

Methodology

The purpose of this physical climate risk scorecard is to assess a facility's potential exposure to climate hazards. This assessment relies on an index screening methodology to identify facilities that are particularly exposed to climate hazards. Facilities are scored for a range of climate-related risks on a scale of 0 (low risk) to 100 (high risk). Four Twenty Seven's criteria for this analysis include detailed climate hazard projections that measure the relative degree of change in extreme events such as intensity and frequency of rainfall, high temperatures, historical tropical cyclone activity, coastal flooding, drought and water stress, and wildfire potential. Our analysis focuses on extreme weather impacts (e.g., tropical cyclones) today and other climate impacts at a mid-term projection period, 2030-2049. For reference, we provide country benchmark scores and measure values showing the average exposure of other sites in the relevant country, leveraging Four Twenty Seven's global database of corporate and real estate facilities, with other reference businesses available upon request. The scorecard below includes a summary description of data specifications and modeling approach. Please refer to Four Twenty Seven's Real Assets Physical Climate Risk & Corporate Facility Operations Risk Methodology for a detailed description of data sources, limitations, and methodologies for scoring.

FourTwentySeven Climate Risk Scorecard Ex 2.0.4

Spatial Scale: 50 x 50 m (Flood Frequency/Severity) and 25 x 25 km (Rainfall)
Historical Period: 1976-2005 (Rainfall) and 1,000-year simulation (Flood Frequency/Severity)
Projection Period: 2030-2049 (Rainfall)

The floods score measures the severity and frequency of historical pluvial and fluvial floods, the projected frequency of future heavy rainfall events, and the projected intensity of prolonged periods of heavy rainfall. Floods can have direct and indirect impacts on operations, as they can damage both property and nearby infrastructure. The flood frequency and severity indicators are based on a 1,000-year simulated history that was extrapolated from an observational history, and the rainfall indicators are based on global climate models.

| Climate Hazard | Risk Level | Site Score | Country Benchmark |
|----------------|------------|------------|-------------------|
| Floods | Low | 16 | 23 |

| Indicator | Description | Unit | Measure | Score | Country |
|--------------------------|---|---------------|---------|-------|---------|
| Flood Frequency | A simulated measure of how frequently the site floods | Return Period | | | |
| Flood Severity | A simulated measure of the depth of inundation during a 1-100 year flood | Meters | | | |
| Rainfall Intensity | Percent change in the total maximum volume (mm) of rainfall in a 5-day period in an average year across the projection period compared to the historical baseline | Percent | | | |
| Very Wet Days (>95th pt) | The additional number of days in a year when the daily rainfall volume is projected to exceed the local 95th percentile with respect to the historical baseline | Days | | | |
| Wet Days (>10 mm) | The additional number of days in a year when the daily rainfall volume is projected to exceed 10 mm compared to the historical baseline | Days | | | |

Energy Transition

Introduction

- **The "what."** This presentation offers an examination of the energy transition¹ and is meant to identify the attendant investment risks and opportunities for the Real Assets Portfolio.
- **The "why."** The energy transition is gathering pace and prominence – both as a topic of discussion and as an investment opportunity. While the distribution of outcomes is wide, the future of energy is likely to look very different from its past, as new technologies (and policies) disrupt supply and demand. With continued evolution expected, Staff intends to utilize this (and future) analysis as an input to underwriting and long-term planning as well as to inform discussions with investment managers and advisors.
- **The "how."** With no single pathway established, the analysis begins with consideration of a wide range of possible outcomes, intended to help to inform a judgement about the uncertainty surrounding energy markets. Next, the energy transition is considered through industry-, manager-, and investment-focused lenses, concluding with an investment landscape.

The evaluation is organized as follows:

1. Energy sector overview
2. Real Assets Portfolio exposures
3. Energy transition investment landscape



¹Energy transition¹ refers to the energy system's shift from fossil-fuels to renewable energy sources.



OREGON STATE TREASURY

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Oregon State Treasurer

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TAB 6 – CEM Benchmarking

Oregon Public Employees Retirement Fund

Investment Cost Effectiveness Analysis - Summary of Results

For the 5-year period ending December 31, 2020



Mike Heale
Principal

Key Takeaways

Returns

- Your 5-year net total return was 8.6%. This was below the U.S. Public median of 9.7% and below the peer median of 9.9%.
- Your 5-year policy return was 8.8%. This was below the U.S. Public median of 9.2% and below the peer median of 9.2%.

Value added

- Your 5-year net value added was -0.2%. This was below the U.S. Public median of 0.4% and below the peer median of 0.8%.

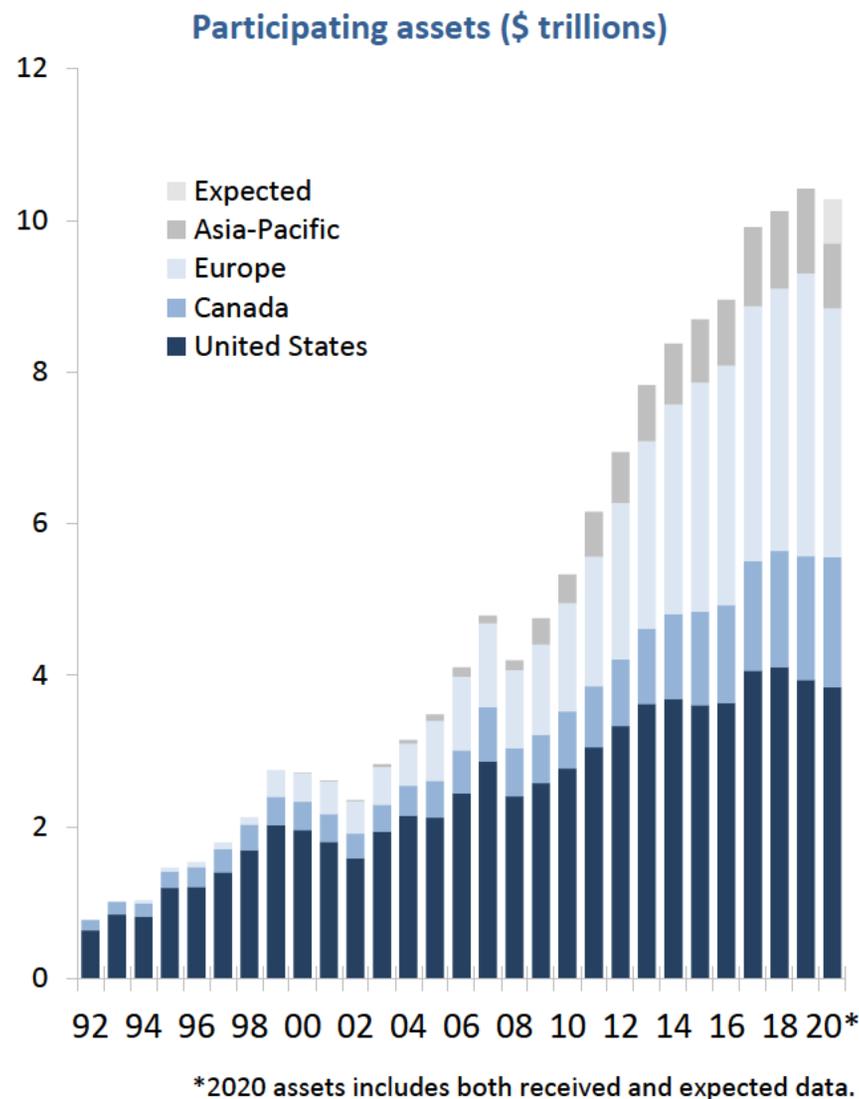
Cost

- Your investment cost of 80.4 bps was below your benchmark cost of 82.6 bps. This suggests that your fund was slightly low cost compared to your peers.
- Your fund was slightly low cost because it paid less than peers for similar services. These savings were mostly offset by a higher cost implementation style.

This benchmarking report compares your cost and return performance to the 241 funds in CEM's extensive pension database.

- 146 U.S. pension funds participate. The median U.S. fund had assets of \$9.6 billion and the average U.S. fund had assets of \$26.3 billion. Total participating U.S. assets were \$3.8 trillion.
- 63 Canadian funds participate with assets totaling \$1.7 trillion.
- 25 European funds participate with aggregate assets of \$3.3 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Ireland, Denmark and the U.K.
- 5 Asia-Pacific funds participate with aggregate assets of \$857.6 billion. Included are funds from Australia, New Zealand, and South Korea.
- 2 funds from other regions participate.

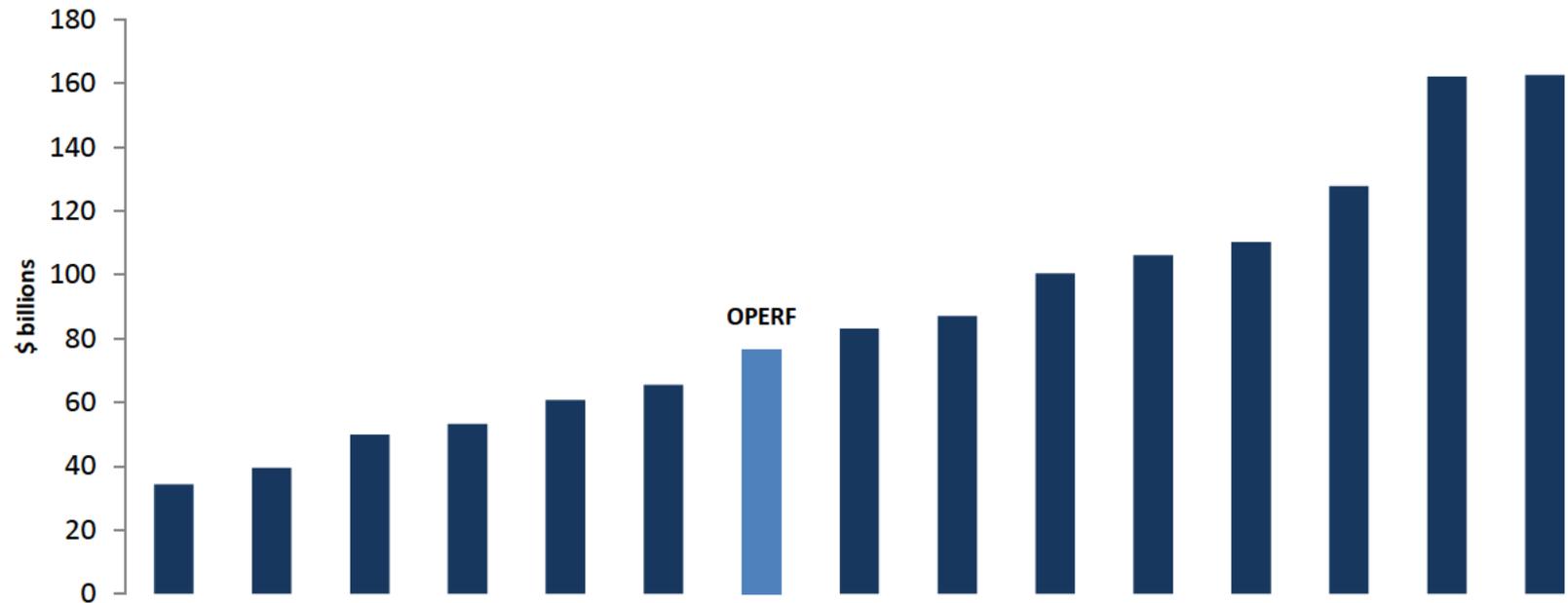
The most meaningful comparisons for your returns and value added are to the U.S. Public universe, which consists of 44 funds.



The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.

Peer group for Oregon Public Employees Retirement Fund

- 15 U.S. Public public sponsors from \$34.3 billion to \$162.6 billion
- Median size of \$83.2 billion versus your \$76.5 billion



To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.

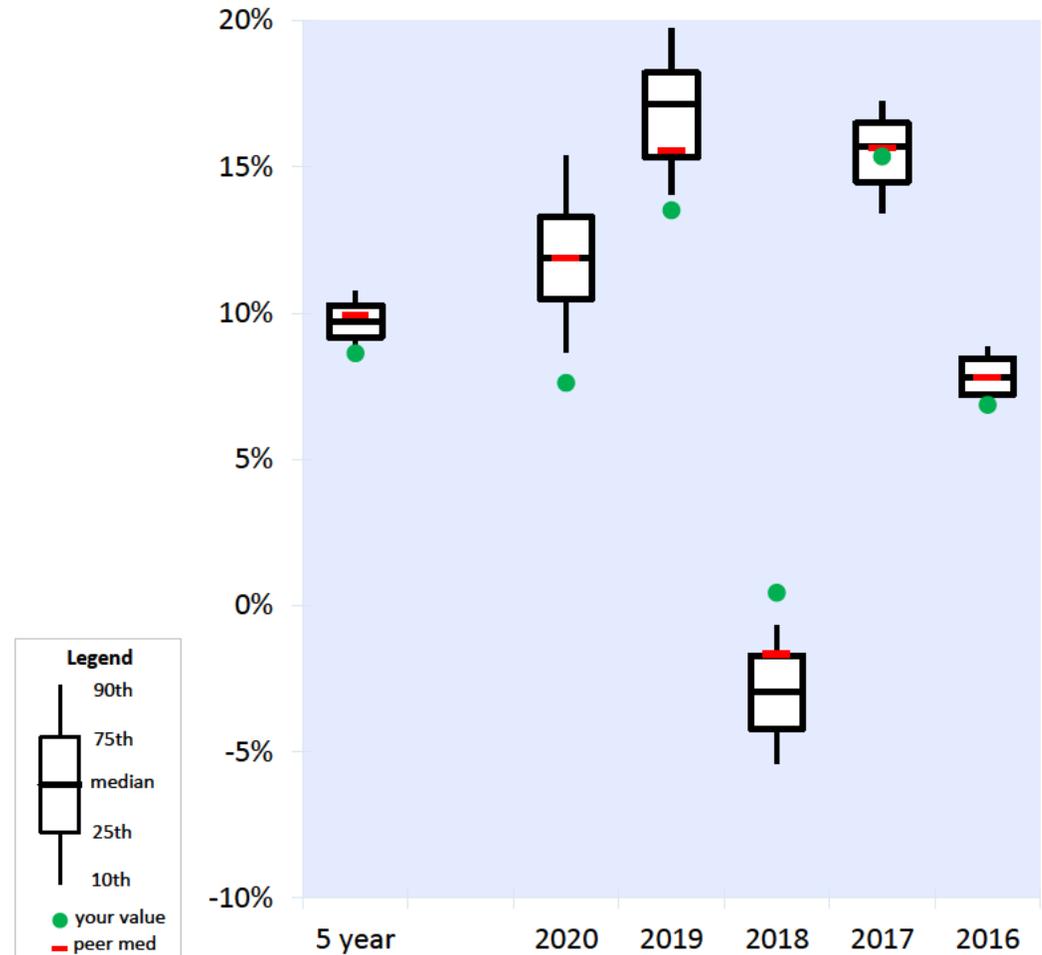
Your 5-year net total return of 8.6% was below both the U.S. Public median of 9.7% and the peer median of 9.9%.

Total returns, by themselves, provide little insight into the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and value added.

| | Your 5-year |
|-----------------------|-------------|
| Net total fund return | 8.6% |
| - Policy return | 8.8% |
| = Net value added | -0.2% |

This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's responsibility).

U.S. Public net total returns - quartile rankings



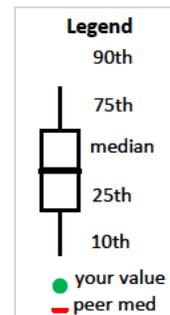
Your 5-year policy return of 8.8% was below both the U.S. Public median of 9.2% and the peer median of 9.2%.

Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

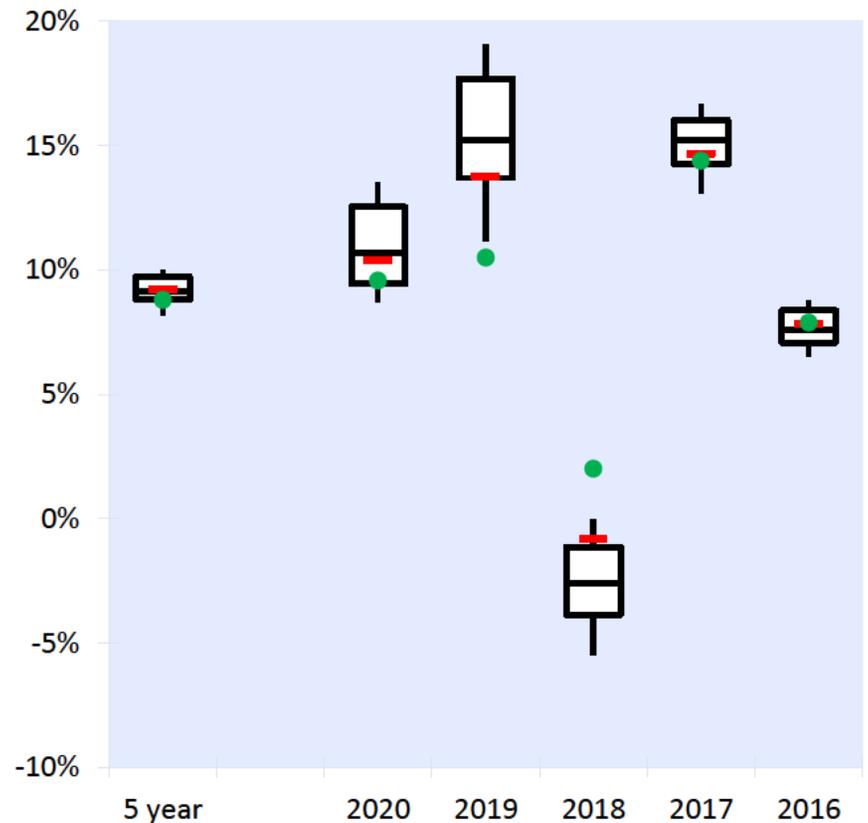
Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

- Long term capital market expectations
- Liabilities
- Appetite for risk

Each of these three factors is different across funds. Therefore, it is not surprising that policy returns often vary widely between funds.



U.S. Public policy returns - quartile rankings



To enable fairer comparisons, the policy returns of all participants, including your fund, were adjusted to reflect private equity benchmarks based on lagged, investable, public-market indices. Prior to this adjustment, your 5-year policy return was 10.3%, 1.5% higher than your adjusted 5-year policy return of 8.8%. Mirroring this, your 5-year total fund net value added would be 1.5% lower.

Your 5-year policy return of 8.8% was below the U.S. Public median of 9.2% primarily because:

- You had a lower allocation to the stock market than the U.S. Public universe (your 38% 5-year average weight versus a U.S. Public average of 47%). Stock was one of the better performing asset classes over the past 5 years.
- You had a higher allocation to Private Equity than the U.S. Public universe (your 19% 5-year average weight versus a U.S. Public average of 9%). Although Private Equity was among the better performing asset classes over the past five years, its benchmark returns were lower than those for stocks.

5-year average policy mix

| | Your Fund | U.S. Public Avg. | More/Less |
|---------------------------|-----------|------------------|-----------|
| Stock | 38% | 48% | -10% |
| Fixed Income | 22% | 25% | -3.7% |
| Risk Parity | 1% | 1% | 0% |
| Real Estate | 13% | 9% | 4% |
| Alternatives ¹ | 8% | 8% | 0% |
| Private Equity | 19% | 9% | 10.5% |
| Total | 100% | 100% | 0.0% |

1. Alternatives includes commodities, natural resources, infrastructure, and other diversifying strategies.

Net value added is the component of total return from active management. Your 5-year net value added was -0.2%.

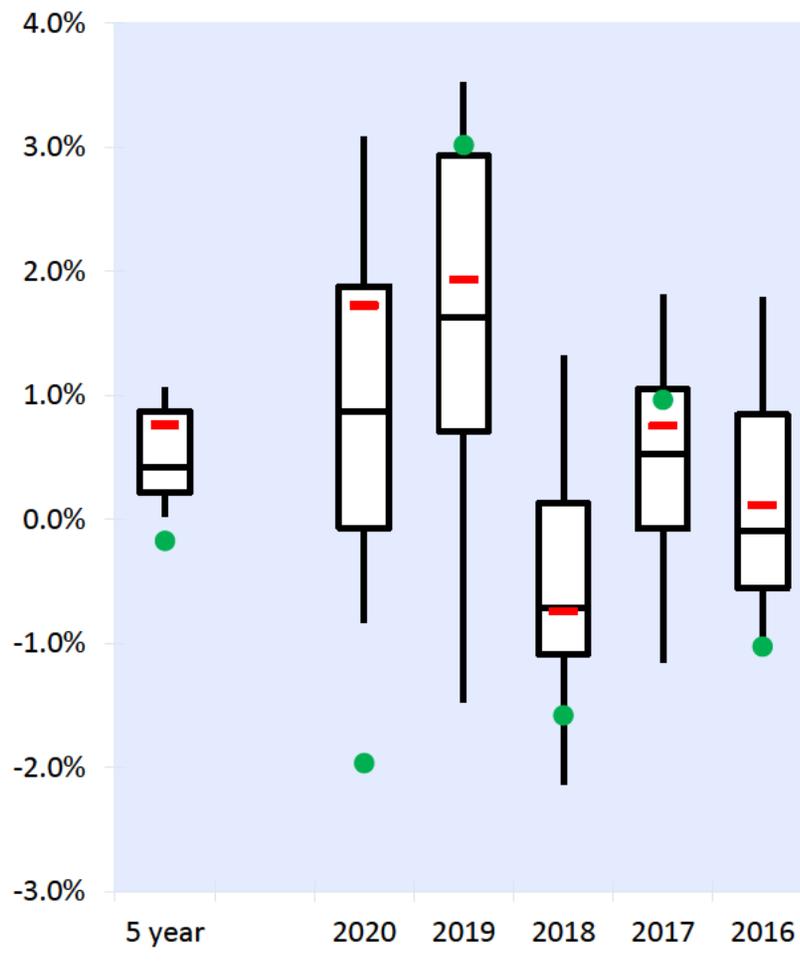
Net value added equals total net return minus policy return.

Value added for Oregon Public Employees Retirement Fund

| Year | Net return | Policy return | Net value added |
|--------|------------|---------------|-----------------|
| 2020 | 7.6% | 9.6% | -2.0% |
| 2019 | 13.5% | 10.5% | 3.0% |
| 2018 | 0.4% | 2.0% | -1.6% |
| 2017 | 15.4% | 14.4% | 1.0% |
| 2016 | 6.9% | 7.9% | -1.0% |
| 5-Year | 8.6% | 8.8% | -0.2% |

Your 5-year net value added of -0.2% compares to a median of 0.8% for your peers and 0.4% for the U.S. Public universe.

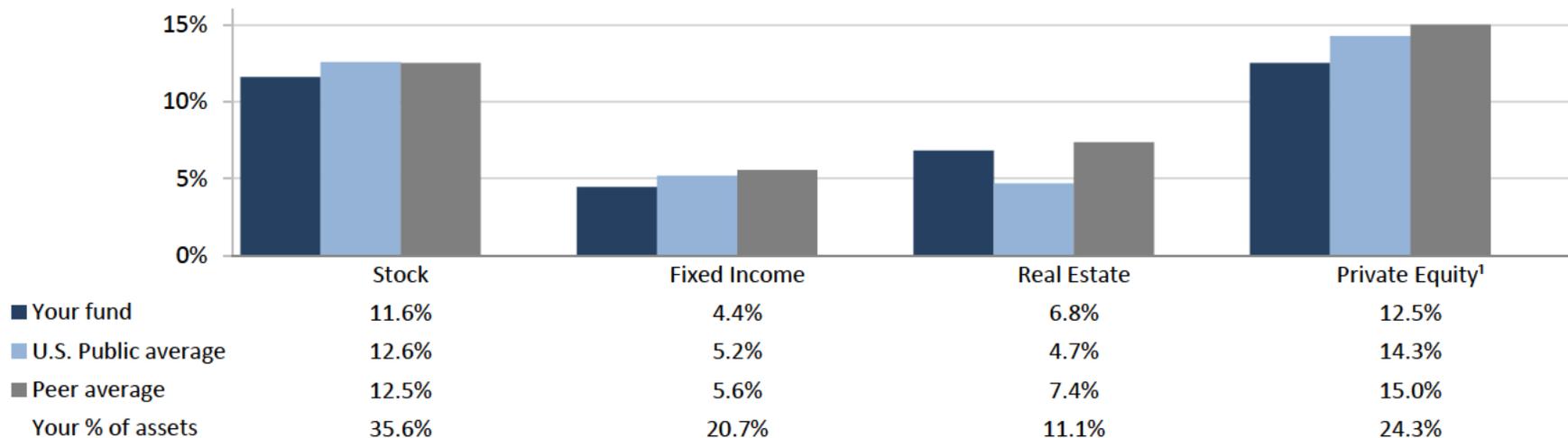
U.S. Public net value added - quartile rankings



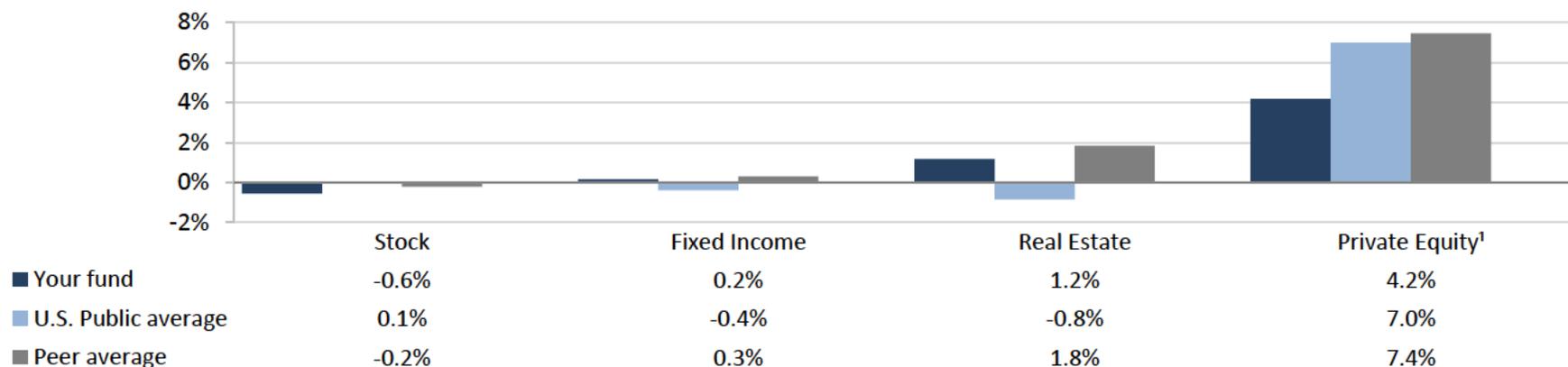
To enable fairer comparisons, the value added for each participant including your fund was adjusted to reflect private equity benchmarks based on lagged, investable public market indices. Prior to this adjustment, your fund's 5-year total fund net value added was -1.7%.

Comparisons of your 5-year net return and net value added by major asset class:

5-year average net return by major asset class



5-year average net value added by major asset class



1. To enable fairer comparisons, the private equity benchmarks of all participants, including your fund were adjusted to reflect lagged, investable, public-market indices. Prior to this adjustment, your fund's 5-year private equity net value added was -4.5%.

Your investment costs, excluding private asset performance fees, were \$615.5 million or 80.4 basis points in 2020.

| Asset management costs by asset class and style (\$000s) | Internal Management | | | External Mgmt | | Total | |
|---|---------------------|--------|------------------------|---------------|------------------|---------|--------|
| | Passive | Active | Overseeing of external | Passive fees | Active base fees | | |
| Stock | 2,360 | | 2,901 | | 51,547 | 56,807 | |
| Fixed Income | 1,382 | 1,048 | 3,374 | | 19,905 | 25,709 | |
| Risk Parity | | | | | 7,543 | 7,543 | |
| Real Estate | | | 4,652 | | 72,279 | 76,931 | |
| Alternatives ² | | | 4,955 | | 109,340 | 114,295 | |
| Private Equity ^{2 3} | | | 7,521 | | 316,618 | 324,139 | |
| Derivatives/Overlays | | | 2,446 | 608 | 3,443 | 6,497 | |
| Total excluding private asset performance fees | | | | | | 611,921 | 79.9bp |
| Oversight, custodial and other costs⁴ | | | | | | | |
| Oversight & consulting | | | | | | 1,724 | |
| Trustee & custodial | | | | | | 183 | |
| Audit | | | | | | 528 | |
| Other | | | | | | 1,160 | |
| Total oversight, custodial & other costs | | | | | | 3,595 | 0.5bp |
| Total investment costs (excl. transaction costs & private asset performance fees) | | | | | | 615,516 | 80.4bp |

1. Alternatives includes commodities, natural resources, infrastructure, and other diversifying strategies.

2. Fees are the weighted average management cost calculated using the detailed limited partnership survey provided.

3. Default underlying costs were added for the underlying funds in Private Equity - FoFs: 157 bps.

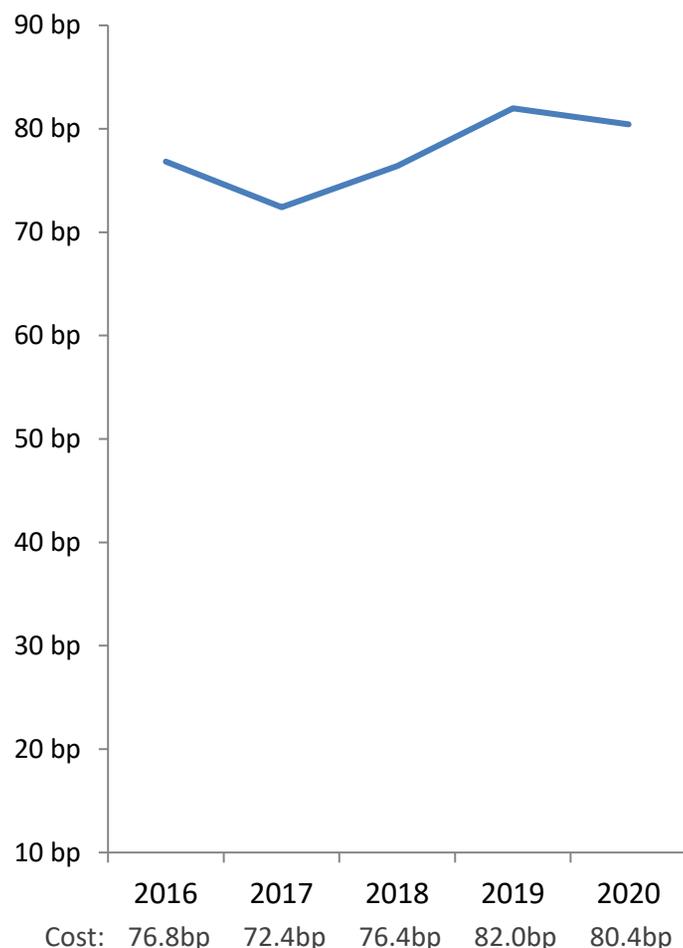
Refer to Appendix A for full details regarding defaults.

4. Excludes non-investment costs, such as benefit insurance premiums and preparing cheques for retirees.

Total cost excludes carry/performance fees for real estate, infrastructure, natural resources and private equity. Performance fees are included for the public market asset classes and hedge funds.

Your costs increased by 3.6 bps, from 76.8 bps in 2016 to 80.4 bps in 2020, primarily because you had a higher cost asset mix. This was partly offset by a lower cost implementation style.

Trend in cost



Reasons why your costs increased by 3.6 bps

| | Impact in bps | | |
|--|------------------|------------------|-------------------|
| 1. Higher cost asset mix | | | |
| • More Alternatives ¹ : from 7% to 14% | | | 8.5 |
| • All other mix changes | | | 1.2 |
| | | | <u>9.7</u> |
| 2. Lower cost implementation style | | | |
| • More passive, less active | | | (3.2) |
| • More evergreen, Less LP & FoF | | | (1.3) |
| • More LP, less FoF | | | (0.6) |
| • All other implementation style changes | | | (0.2) |
| | | | <u>(5.2)</u> |
| 3. Paid less, net, for similar investment styles | <u>2016 cost</u> | <u>2020 cost</u> | |
| • Higher Real Estate base fees | 62.9 bp | 80.9 bp | 1.4 |
| • Lower external active Stock - U.S. Broad/All costs | 43.3 bp | 22.3 bp | (1.1) |
| • Lower Private Equity LP base fees | 147.8 bp | 144.6 bp | (0.8) |
| • All other differences | | | (0.4) |
| | | | <u>(0.9)</u> |
| Total increase | | | <u><u>3.6</u></u> |

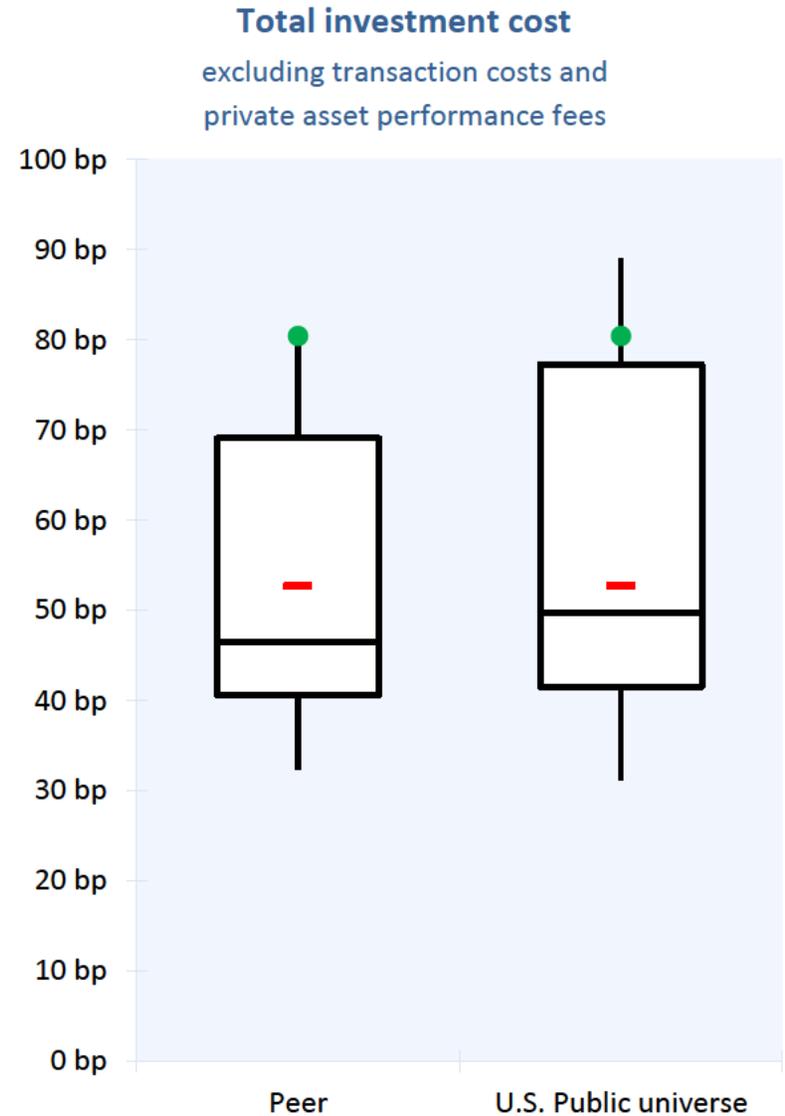
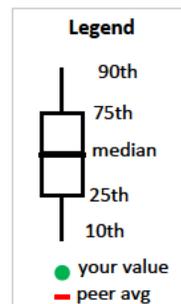
1. Alternatives includes commodities, natural resources, infrastructure, and other diversifying strategies.
© 2021 CEM Benchmarking Inc.

Your total investment cost of 80.4 bps was above the peer median of 46.4 bps.

Differences in total investment cost are often caused by two factors that are often outside of management's control:

- Asset mix, particularly holdings of the highest cost asset classes: real estate (excl. REITs), infrastructure, hedge funds, private equity and private credit. These high cost assets equaled 47% of your funds assets at the end of 2020 versus a peer average of 28%.
- Fund size. Bigger funds have advantages of scale.

Therefore, to assess whether your costs are high or low given your unique asset mix and size, CEM calculates a benchmark cost for your fund. This analysis is shown on the following page.



Benchmark cost analysis suggests that, after adjusting for fund size and asset mix, your fund was slightly low cost by 2.2 basis points in 2020.

Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 80.4 bp was slightly below your benchmark cost of 82.6 bp. Thus, your cost savings were 2.2 bp.

Your cost versus benchmark

| | \$000s | basis points |
|----------------------------|----------|--------------|
| Your total investment cost | 615,516 | 80.4 bp |
| Your benchmark cost | 632,278 | 82.6 bp |
| Your excess cost | (16,763) | (2.2) bp |

Your fund was slightly low cost because it paid less than peers for similar services. These savings were mostly offset by a higher cost implementation style.

Reasons for your low cost status

| | Excess Cost/ (Savings) | |
|--|---------------------------|--------------|
| | \$000s | bps |
| 1. Higher cost implementation style | | |
| • More active management, less lower cost passive | 13,304 | 1.7 |
| • More external management, less lower cost internal | 18,345 | 2.4 |
| • More LPs as a percentage of external | 4,061 | 0.5 |
| • Less fund of funds | (9,692) | (1.3) |
| • Less co-investment as a percentage of LP/Co | 16,244 | 2.1 |
| • More overlays | 4,469 | 0.6 |
| | <u>46,731</u> | <u>6.1</u> |
| 2. Paying less than peers for similar services | | |
| • External investment management costs | (60,162) | (7.9) |
| • Internal investment management costs | 1,292 | 0.2 |
| • Oversight, custodial & other costs | (4,624) | (0.6) |
| | <u>(63,493)</u> | <u>(8.3)</u> |
| Total savings | (16,763) | (2.2) |

The table below summarizes why your fund is high/low cost relative to the peer-median by asset class.

Why are you high/(low) cost by asset class?

| Asset class/category | Impl. style \$000s | Paying more/(less) \$000s | Total \$000s | Total bps ¹ |
|------------------------------|-----------------------|------------------------------|-----------------|---------------------------|
| Stock | 20,193 | (3,606) | 16,587 | 7.1 |
| Fixed Income | 4,759 | 13,049 | 17,808 | 11.5 |
| Risk Parity | 795 | 1,588 | 2,383 | 16.6 |
| Real Estate | 6,486 | 8,376 | 14,862 | 17.4 |
| Alternatives ² | 10,389 | (55,890) | (45,501) | (44.1) |
| Private Equity | (361) | (22,386) | (22,746) | (10.1) |
| Derivative programs | 4,469 | 0 | 4,469 | 0.6 bp |
| Oversight, custodial & other | n/a | (4,624) | (4,624) | (0.6) bp |
| Total | 46,731 | (63,493) | (16,763) | (2.2) bp |

1. Relative to assets benchmarked in each asset class. Oversight, derivative programs, and total are relative to total plan assets.

2. Alternatives includes commodities, natural resources, infrastructure, and other diversifying strategies.

TAB 7 – OPERF Performance

Oregon Investment Council

September 8, 2021

OPERF Performance Report

OPERF Performance Summary – Commentary

- Within Domestic Equity, the OPERF portfolio's value and small cap exposure tilts detracted from second quarter performance. Small cap growth exposure has otherwise provided strong contribution to performance. Small cap value, while providing strong 1 year returns has detracted over longer trailing periods.
- OPERF saw strong benchmark-relative performance across all time periods within International Equity.
- The Global Equity Low Volatility sleeve comprises nearly 90% of the total allocation to Global Equity. Due to the emphasis on downside protection, these strategies have struggled to keep up with the MSCI ACWI IMI Index given the strong equity market experienced since implementation.
- The overweight to and performance within the Private Equity portfolio were strong contributors to excess return over the most recent quarter. Over longer trailing periods the portfolio has exhibited strong absolute returns though still trailing its public markets equivalent benchmark. The OPERF Portfolio maintains a significant overweight relative to the target - actual allocation of 25% versus a target allocation of 19%. Additionally, the portfolio underperformed its public market benchmark over most trailing periods, due to the extraordinary performance of public equity markets over the last year. OPERF is actively looking to reduce private equity exposure, though it will take some time given the illiquid nature of the asset class.
- OPERF posted a return of 5.7% for the second quarter, relative to a benchmark return of 5.0% and peer median return of 6.3%. This ranks in the bottom quartile of the InvestMetrics public plan peer universe of all DB plans over \$10 billion for the quarter.

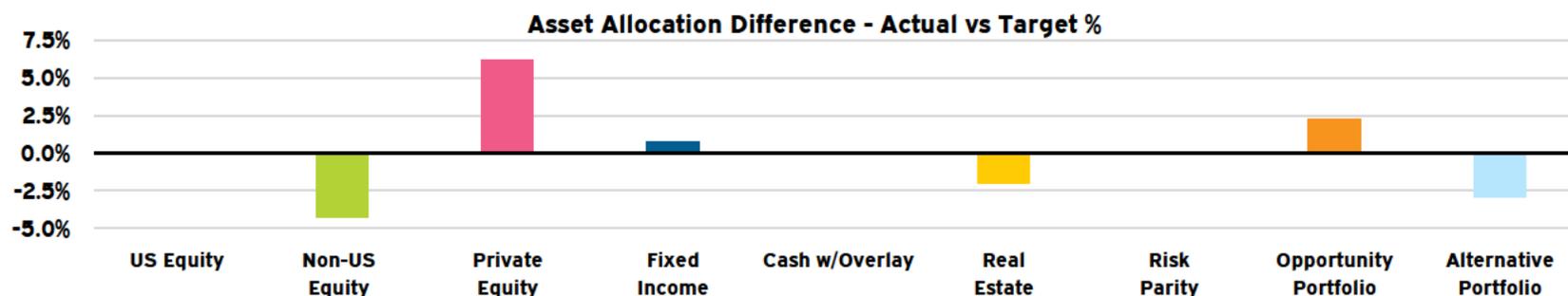
OPERF Performance Summary – Commentary (continued)

- Diversifying Strategies struggled over the latest quarter. The segment underperformed the CPI +4%¹ benchmark by 2.7%. Longer period returns remain challenged on an absolute and relative basis; Meketa believes some of the underperformance can be attributable to implementation.

¹ Meketa will work with Staff to identify a benchmark for the Diversifying Strategies sub-asset class. Currently, it is being benchmarked by the CPI +4% Index, which is the index utilized at the top asset class level (Alternative Portfolio).

OPERF Asset Allocation as of June 30, 2021

| Asset Class | Actual (\$ 000) | Actual Weight (%) | Target Weight ¹ (%) | Difference (%) | Difference (\$ 000) |
|-----------------------|-------------------|-------------------|--------------------------------|----------------|---------------------|
| Fixed Income | 18,705,624 | 20.78 | 20.00 | 0.78 | 703,011 |
| US Equity | 15,158,653 | 16.84 | 19.40 | -2.60 | -2,303,882 |
| Non-US Equity | 11,264,464 | 12.51 | 14.10 | -1.60 | -1,427,378 |
| Real Estate | 9,427,826 | 10.47 | 12.50 | -2.03 | -1,823,807 |
| Risk Parity | 2,167,068 | 2.41 | 2.50 | -0.09 | -83,259 |
| Opportunity Portfolio | 2,047,526 | 2.27 | 0.00 | 2.27 | 2,047,526 |
| Alternative Portfolio | 8,595,016 | 9.55 | 12.50 | -2.95 | -2,656,617 |
| Private Equity | 22,637,040 | 25.15 | 19.00 | 6.15 | 5,534,558 |
| Cash | 9,846 | 0.01 | 0.00 | 0.01 | 9,846 |
| Total | 90,013,064 | 100.0 | 100.0 | | |
| YTD Net Cash Flow | -1,179,412 | | | | |
| Gain/Loss | 9,228,463 | | | | |



- A significant majority of OPERF's assets are allocated to risk-oriented assets in the public and private equity markets.
- Efforts are underway/ liquidity programs in place to reduce the overweight to Private Equity. It is important to note that reducing exposure to PE is challenging given the nature of the asset class, and a work in progress.

¹ Reflects interim policy target adopted July 1, 2020. Strategic policy target not shown.

OPERF Q2 2021 Performance Attribution¹

| | QTD | 1 Yr | 3 Yr | 5 Yr | 10 Yr |
|-----------------------------|-------|--------|-------|-------|-------|
| Total OPERF | 5.70 | 25.54 | 10.36 | 10.53 | 8.80 |
| Total OPERF ex Overlay | 5.84 | 26.32 | 10.49 | 10.63 | 8.79 |
| OPERF Benchmark | 5.03 | 26.89 | 11.76 | 11.49 | 9.60 |
| excess | 0.67 | -1.35 | -1.40 | -0.96 | -0.80 |
| IM All DB > S10B Net Median | 6.27 | 27.30 | 11.67 | 11.07 | 8.85 |
| Peer Quartile Rank | 73 | 69 | 86 | 85 | 52 |
| Fixed Income | 1.81 | 1.27 | 5.38 | 3.58 | 3.92 |
| Custom Benchmark | 1.79 | 0.68 | 5.12 | 3.18 | 3.48 |
| excess | 0.02 | 0.59 | 0.26 | 0.40 | 0.59 |
| US Equity | 6.62 | 46.85 | 15.72 | 16.35 | 13.41 |
| Russell 3000 | 8.24 | 44.17 | 18.73 | 17.89 | 14.70 |
| excess | -1.62 | 2.68 | -3.01 | -1.54 | -1.29 |
| Non-US Equity | 6.35 | 43.13 | 11.23 | 12.66 | 7.22 |
| MSCI ACWI x US IMI | 5.60 | 37.18 | 9.42 | 11.20 | 5.65 |
| excess | 0.75 | 5.95 | 1.81 | 1.46 | 1.57 |
| Global Equity | 5.20 | 29.73 | 10.34 | 12.62 | 8.80 |
| MSCI ACWI IMI Net (Daily) | 7.18 | 40.94 | 14.24 | 14.55 | 9.90 |
| excess | -1.98 | -11.21 | -3.90 | -1.93 | -1.10 |
| Real Estate | 4.23 | 8.23 | 6.21 | 7.11 | 9.39 |
| NCREIF ODCE (Qtr Lag) | 1.88 | 1.49 | 3.97 | 5.26 | 8.51 |
| excess | 2.35 | 6.74 | 2.24 | 1.85 | 0.88 |
| Risk Parity | 8.86 | 21.51 | | | |
| S&P Risk Parity - 12% Vol | 9.58 | 32.01 | | | |
| excess | -0.72 | -10.50 | | | |
| Opportunity Portfolio | 6.21 | 31.52 | 10.72 | 9.72 | 8.60 |
| CPI +5% | 3.83 | 10.64 | 7.66 | 7.52 | 6.95 |
| excess | 2.38 | 20.88 | 3.06 | 2.20 | 1.65 |
| Alternative Portfolio | 2.87 | 11.47 | -0.73 | 2.55 | 1.86 |
| CPI +4% | 3.58 | 9.59 | 6.63 | 6.51 | 5.94 |
| excess | -0.71 | 1.88 | -7.36 | -3.96 | |
| Private Equity | 9.82 | 44.13 | 18.77 | 17.31 | 13.72 |
| Russell 3000 + 3% (Qtr Lag) | 7.12 | 67.25 | 20.59 | 20.10 | 17.17 |
| excess | 2.70 | -23.12 | -1.82 | -2.79 | -3.45 |
| CASH in OSTF | 0.10 | 0.48 | 2.06 | 1.75 | 1.24 |
| 91 Day Treasury Bill | 0.00 | 0.10 | 1.34 | 1.17 | 0.63 |
| excess | 0.10 | 0.38 | 0.72 | 0.58 | 0.61 |

| Target | Overweight / Underweight ² | Contributors / Detractors to excess return |
|--------|---------------------------------------|--|
| Policy | As of 6/30/21 | QTD |
| 20.00% | +0.78% | Neutral |
| 19.4% | -2.60% | Detractor |
| 14.1% | -1.60% | Neutral |
| | Allocated to US and Non-US Equity | Detractor |
| 12.50% | -2.03% | Contributor |
| 2.50% | -0.09% | Detractor |
| 0.00% | +2.27% | Contributor |
| 12.50% | -2.95% | Detractor |
| 19.00% | +6.15% | Contributor |
| 0.00% | +0.01% | Neutral |

¹ Performance figures may differ versus State Street reporting due to calculation methodology differences.

² Global Equity included within US Equity and Non-US Equity allocations based on MSCI ACWI regional breakdown. Returns are reported separately.

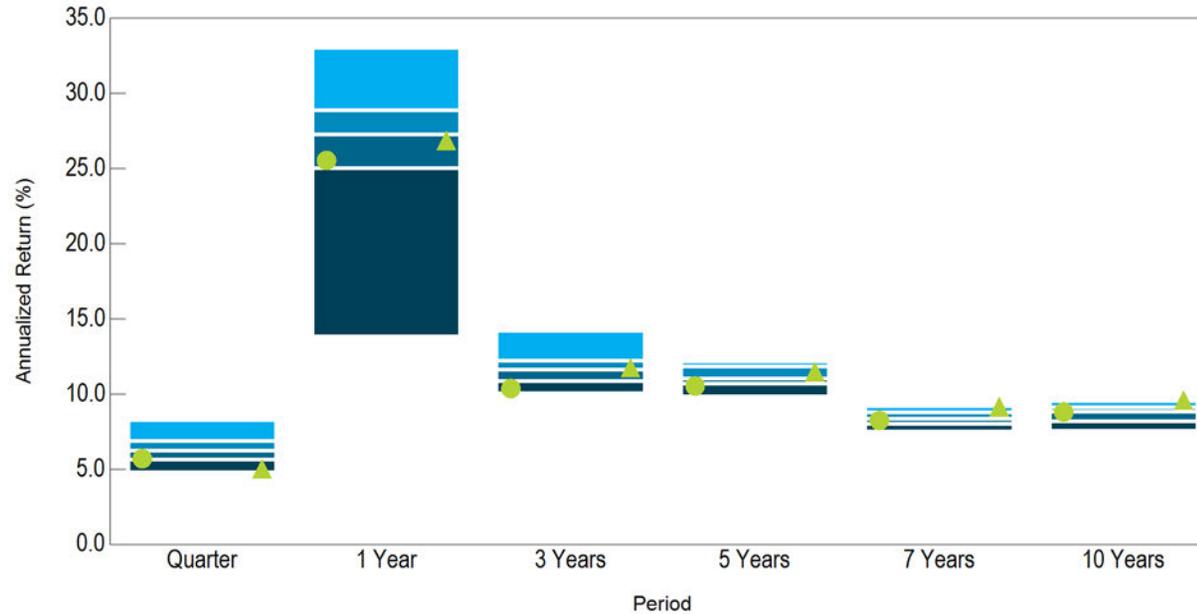
Action Items / General Updates

- The OPERF portfolio had a strong second quarter in terms of absolute and relative returns, and outperformed the Policy Index.
 - Absolute and relative outperformance of the Private Equity portfolio, combined with the sizeable overweight of the asset class contributed to Total Portfolio excess performance.

Appendix

*Meketa's Full 2Q 2021 Performance Report available upon request.

InvMetrics All DB > \$10B Net Return Comparison Ending June 30, 2021



| | Return (Rank) | | | | | |
|--------------------------|---------------|-----------|-----------|-----------|----------|----------|
| | Quarter | 1 Year | 3 Years | 5 Years | 7 Years | 10 Years |
| 5th Percentile | 8.2 | 33.0 | 14.2 | 12.1 | 9.2 | 9.5 |
| 25th Percentile | 6.9 | 28.9 | 12.3 | 11.9 | 8.8 | 9.2 |
| Median | 6.3 | 27.3 | 11.7 | 11.1 | 8.4 | 8.8 |
| 75th Percentile | 5.7 | 25.1 | 10.9 | 10.7 | 8.0 | 8.2 |
| 95th Percentile | 4.8 | 13.9 | 10.1 | 9.9 | 7.5 | 7.6 |
| # of Portfolios | 23 | 23 | 22 | 20 | 19 | 19 |
| ● Total Fund | 5.7 (73) | 25.5 (69) | 10.4 (86) | 10.5 (85) | 8.2 (59) | 8.8 (52) |
| ▲ OPERF Policy Benchmark | 5.0 (90) | 26.9 (58) | 11.8 (49) | 11.5 (39) | 9.2 (6) | 9.6 (5) |

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.



To: The Oregon Investment Council
From: Karl Cheng, Senior Investment Officer, Portfolio Risk & Research
Re: Second Quarter 2021 Risk Report for the Oregon Public Employees Retirement Fund

Executive Summary

This memo summarizes OPERF’s predicted volatility, as estimated by Aladdin, Treasury’s end-to-end investment analytics platform built by BlackRock. As of June 30, 2021, Aladdin estimated a return volatility¹ of 13.9% for OPERF, in-line with the forward assumptions of Meketa Investment Group (“Meketa”) presented at the June 2021 meeting. Therefore, **staff recommends no additional action at this point.**

The realized and predicted volatilities for the liquid portion of the Fund, mainly the Public Equity and Fixed Income Portfolios, are within OIC guidelines.

OPERF Asset Allocation

Investment Belief #2 in [INV 1201: Statement of OIC Investment and Management Beliefs](#) states: “Asset Allocation Drives Risk and Return”. Shown in the table below are OPERF’s target allocations approved by the Council at the June 2021 meeting.

Table 1. OPERF Target Asset Allocation

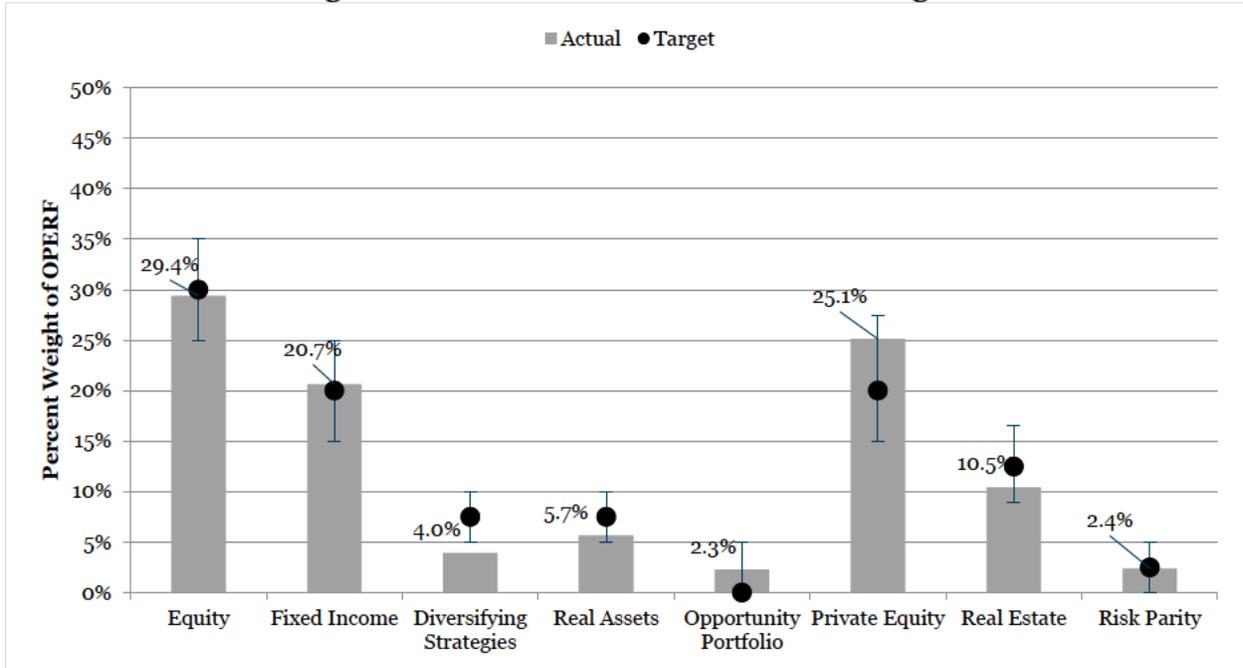
| Asset Class | Target Allocation (%) | Rebalancing Range (%) |
|-------------------------|------------------------------|------------------------------|
| Public Equity | 30.0 | 25.0 – 35.0 |
| Private Equity | 20.0 | 15.0 – 27.5 |
| Fixed Income | 20.0 | 15.0 – 25.0 |
| Real Estate | 12.5 | 9.0 – 16.5 |
| Real Assets | 7.5 | 5.0 – 10.0 |
| Diversifying Strategies | 7.5 | 5.0 – 10.0 |
| Risk Parity | 2.5 | 0.0 – 5.0 |
| Total Fund | 100.0 | |

Including the synthetic overlays exposures managed by Russell Investments, Figure 1 below shows OPERF’s allocation.

¹ Since the last Risk Report, staff changed the parameters of the risk model for OPERF to be less responsive to recent market volatility but more reflective of a longer-term investment perspective.



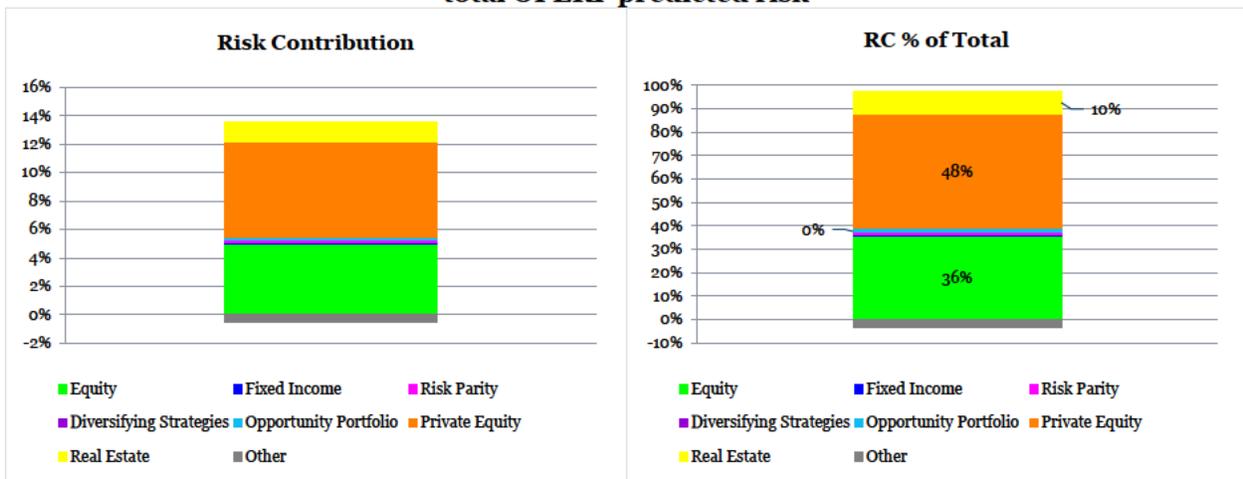
Figure 1. OPERF Actual Allocation versus Target



OPERF Predicted Risk

The risk estimates are shown in the charts below.

Figure 2. OPERF Risk Contribution by Asset Class and Risk Contribution as a percent of total OPERF predicted risk



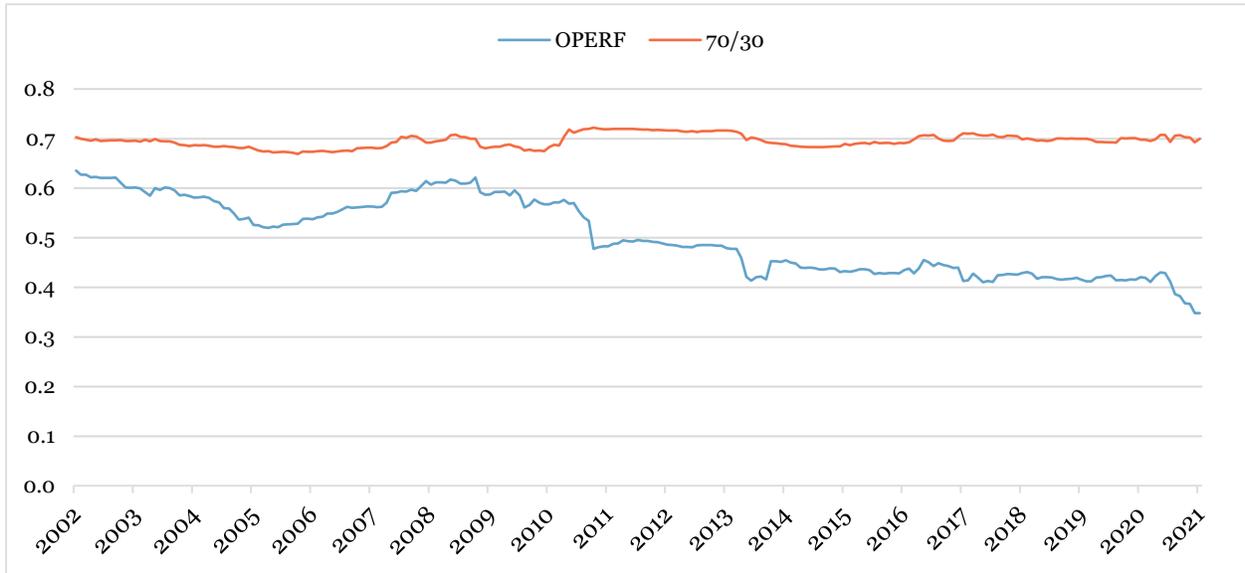
The total predicted **standard deviation**, or **volatility**, for OPERF is 13.9% as of June 30, 2021. To put that in context, Meketa, the OIC's investment consultant, estimates OPERF's long-term volatility to be 12.8% using their 2021 Capital Market Assumptions, which were a blend of forward 10- and 20-year assumptions from staff, Meketa, and Aon Investments, the Council's secondary investment consultant. Aladdin's model uses a medium-term, five-year lookback period so there will almost always be some difference between the two estimates.

Another item of note from Figure 2 is that "equity" risk, that is the predicted risk contributions from the Public Equity and Private Equity Portfolios, are estimated to total 84% of OPERF's predicted risk. Equity risk has always been the largest risk contributor to OPERF. OIC Investment Belief #3 summarizes the Council's objective for investing in equity: "*Over the long-term, equity-oriented investments provide reliable return premiums relative to risk-free investments.*" However, equity investments are much more volatile than investment grade fixed income and U.S. Treasuries. Over the past several years, the OIC has approved changes to asset allocations and portfolio construction to diversify the Fund from equity risk, including:

- Increasing Diversifying Strategies allocation,
- Rebalancing the Fixed Income and Real Estate Portfolios,
- Allocating to defensive equity within the Public Equity Portfolio, and
- Adding Risk Parity.

The OIC-approved changes have reduced OPERF's volatility over time. Figure 3 below plots OPERF's rolling 20-quarter realized beta to MSCI ACWI IMI as well as that of the 70% MSCI ACWI IMI & 30% Bloomberg Barclays blend, or the "Reference Portfolio". OPERF's realized beta hovered around +0.60 in the earlier portion of the analysis period before starting a steady decline. Part of that decline is due to an increasing allocation to illiquid investments, which tend to have performance smoothing, but the other cause is the aforementioned diversification.

Figure 3. OPERF's Beta to MSCI ACWI IMI

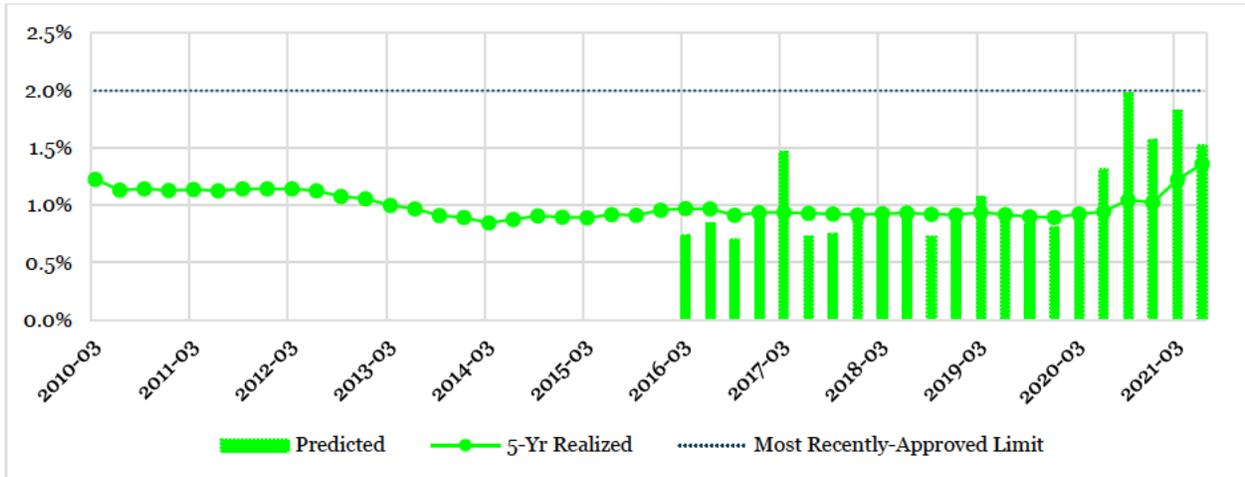


Capital Markets

Public Equity

The Public Equity Portfolio has an OIC-approved **tracking error** range of 0.75% to 2.00%. Using monthly performance data from State Street, the five-year tracking error through June 30, 2021 for the Portfolio is 1.36%, well within the approved range. Predicted active risk increased beginning with Q1 2020 as Covid concerns impacted all aspects of capital markets but still within the OIC-approved range.

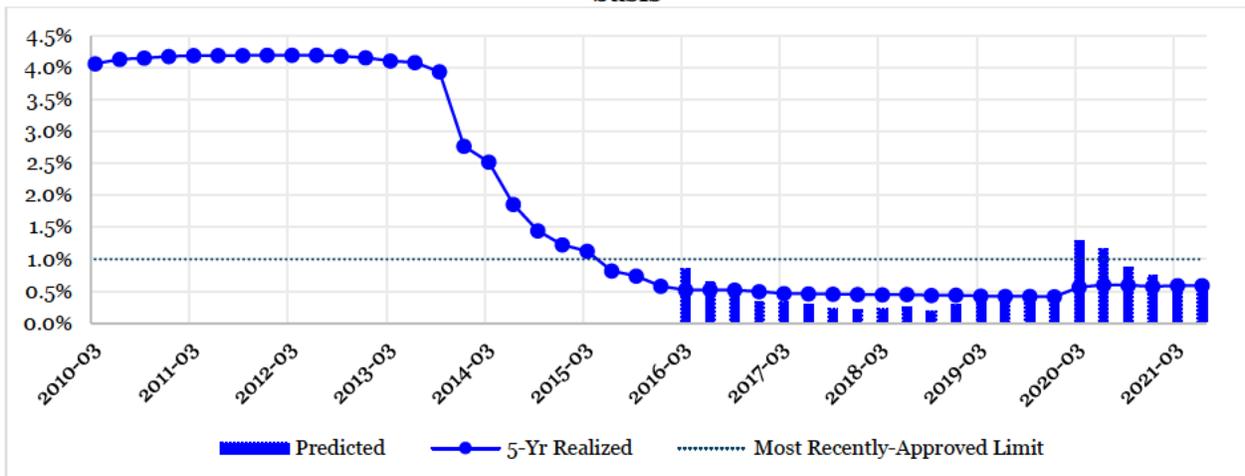
Figure 4. Public Equity's predicted risk and realized five-year tracking error on a quarterly basis



Fixed Income

The Fixed Income Portfolio has an OIC-approved **tracking error** of up to 1.0%. Using monthly performance data from State Street, the five-year tracking error through June 30, 2021 for the Portfolio is 0.59%, well within the approved range. Similar to what occurred for Public Equity, Covid concerns impacted all sectors of the fixed income market. Predicted risk spiked in Q1 and Q2 2020 as both credit and rate risks spiked. The Fixed Income Portfolio underperformed its benchmark by 101 bps in the first quarter as credit spreads widen. However, performance reverted when spreads narrowed in the second quarter and the Portfolio outperformed its benchmark by 82 bps. Although large, the excess returns were to be expected in a volatile market and predicted risk has since declined.

Figure 5. Fixed Income's predicted risk and realized five-year tracking error on a quarterly basis



OPERF Cash Flow

Table 2 below summarizes approximate net investment cash flow and pension cash flow for Year-to-Date 2021 and for the past five years.

Table 2. OPERF Net Cash Flow by Portfolio by Time Period

| Asset Class | Net Cash Flow (\$M) | | | | | |
|-------------------------|---------------------|---------------|---------------|---------------|---------------|---------------|
| | YTD 2021 | 2020 | 2019 | 2018 | 2017 | 2016 |
| Public Equity | +1,262 | +2,853 | +2,764 | +3,522 | +1,451 | +1,730 |
| Private Equity | +1,235 | +494 | +325 | +1,216 | +1,434 | +1,037 |
| Fixed Income | -985 | +2,492 | +342 | -134 | +23 | +1,619 |
| Real Estate | -189 | +15 | -44 | -28 | +508 | +228 |
| Real Assets | +74 | -564 | -596 | -524 | -306 | -1,280 |
| Diversifying Strategies | +320 | -621 | -490 | -1,349 | -395 | -250 |
| Opportunity | -88 | +72 | +18 | +157 | -2 | -134 |
| Risk Parity | 0 | -1,800 | 0 | 0 | 0 | 0 |
| Other | -1 | +232 | +267 | +160 | -2 | +217 |
| Total Fund | +1,152 | +3,172 | +2,591 | +3,019 | +2,711 | +3,166 |
| <i>Net Pension</i> | <i>-1,516</i> | <i>-2,984</i> | <i>-2,536</i> | <i>-2,885</i> | <i>-3,138</i> | <i>-2,990</i> |

The estimated uncalled commitments from the private market portfolios are tabulated below.

Table 3. OPERF Uncalled Commitments

| Asset Class Portfolio | Uncalled Commitment (\$B) |
|--------------------------|------------------------------|
| Private Equity | \$9.1 |
| Real Assets | \$4.5 |
| Real Estate | \$3.4 |
| Opportunity | \$1.3 |
| Total | \$18.3 |

TAB 8 – Asset Allocation & NAV Updates

Asset Allocations at July 31, 2021

| OPERF | Regular Account | | | | | | |
|-------------------------|-------------------|---------------------|----------------------|---------------|--------------------|----------------------|---------------|
| | Policy | Target ¹ | \$ Thousands | Pre-Overlay | Overlay | Net Position | Actual |
| Public Equity | 27.5-37.5% | 32.5% | 28,228,935 | 31.0% | (1,933,029) | 26,295,906 | 28.9% |
| Private Equity | 13.5-21.5% | 17.5% | 23,284,279 | 25.6% | | 23,284,279 | 25.6% |
| Total Equity | 45.0-55.0% | 50.0% | 51,513,213 | 56.7% | (1,933,029) | 49,580,184 | 54.5% |
| Opportunity Portfolio | 0-5% | 0.0% | 2,013,402 | 2.2% | | 2,013,402 | 2.2% |
| Fixed Income | 15-25% | 20.0% | 15,307,007 | 16.8% | 3,331,068 | 18,838,076 | 20.7% |
| Risk Parity | 0.0-2.5% | 2.5% | 2,240,273 | 2.5% | | 2,240,273 | 2.5% |
| Real Estate | 9.5-15.5% | 12.5% | 9,577,724 | 10.5% | (500) | 9,577,224 | 10.5% |
| Alternative Investments | 7.5-17.5% | 15.0% | 8,669,854 | 9.5% | | 8,669,854 | 9.5% |
| Cash ² | 0-3% | 0.0% | 1,608,500 | 1.8% | (1,597,539) | 10,961 | 0.0% |
| TOTAL OPERF | | 100% | \$ 90,929,975 | 100.0% | \$ - | \$ 90,929,975 | 100.0% |

| Target Date Funds | Variable Fund | Total Fund |
|---------------------|-------------------|----------------------|
| \$ Thousands | \$ Thousands | \$ Thousands |
| 1,251,316 | 445,537 | 27,992,758 |
| 2,054,646 | | 23,284,279 |
| | | 51,277,037 |
| | | 2,013,402 |
| | | 20,892,721 |
| | | 2,240,273 |
| | | 9,577,224 |
| | | 8,669,854 |
| | 947 | 11,908 |
| \$ 3,305,961 | \$ 446,484 | \$ 94,682,421 |

¹Targets established in April 2019. Interim policy benchmark effective July 1, 2020, consists of: 33.5% MSCI ACWI IMI Net, 20% Custom FI Benchmark, 19% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF ODCE net (1 quarter lagged), 12.5% CPI+400bps, & 2.5% S&P Risk Parity - 12% Target Volatility.
²Includes cash held in the policy implementation overlay program.

| SAIF | Policy | Target | \$ Thousands | Actual |
|-------------------|--------|--------|---------------------|---------------|
| Total Equity | 7-13% | 10.0% | 651,028 | 12.9% |
| Fixed Income | 80-90% | 85.0% | 4,476,399 | 82.5% |
| Real Estate | 0-7% | 5.0% | 196,741 | 3.9% |
| Cash | 0-3% | 0.0% | 39,118 | 0.8% |
| TOTAL SAIF | | | \$ 5,063,285 | 100.0% |

| CSF | Policy | Target | \$ Thousands | Actual |
|-------------------------|---------------|--------------|---------------------|---------------|
| Global Equities | 40-50% | 45.0% | 1,183,766 | 54.1% |
| Private Equity | 8-12% | 10.0% | 206,287 | 9.4% |
| Total Equity | 58-62% | 55.0% | 1,390,053 | 63.5% |
| Fixed Income | 25-35% | 25.0% | 528,508 | 24.2% |
| Real Estate | 8-12% | 10.0% | 139,169 | 6.4% |
| Alternative Investments | 8-12% | 10.0% | 101,341 | 4.6% |
| Cash | 0-3% | 0.0% | 29,040 | 1.3% |
| TOTAL CSF | | | \$ 2,188,110 | 100.0% |

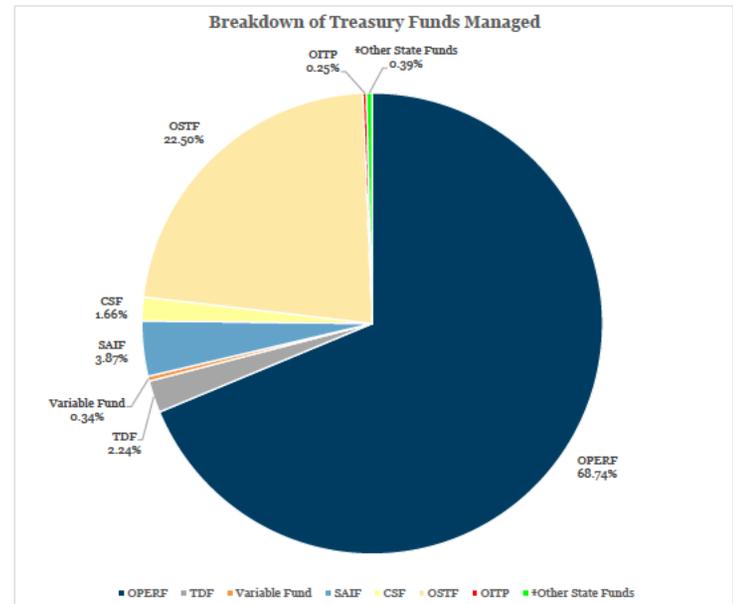
| SOUE | Policy | Target | \$ Thousands | Actual |
|-------------------|---------|--------|-----------------|---------------|
| Global Equities | 0-65% | N/A | 2,470 | 77.4% |
| Fixed Income | 35-100% | N/A | 730 | 22.8% |
| Cash | 0-3% | N/A | 2 | 0.1% |
| TOTAL SOUE | | | \$ 3,201 | 100.0% |

| WOUE | Policy | Target | \$ Thousands | Actual |
|-------------------|--------|--------|-----------------|---------------|
| Global Equities | 30-65% | 55.0% | 978 | 45.4% |
| Fixed Income | 35-60% | 40.0% | 682 | 31.5% |
| Cash | 0-25% | 5.0% | 507 | 23.4% |
| TOTAL WOUE | | | \$ 2,166 | 100.0% |

| OSTF, OITP & Other State Funds* | \$ Thousands | Actual |
|---|----------------------|---------------|
| OSTF | 29,238,792 | 92.7% |
| OITP | 334,793 | 1.1% |
| DAS Insurance Fund | 123,813 | 0.4% |
| DCBS Operating Fund | 167,576 | 0.5% |
| DCBS Workers Benefit Fund | 152,209 | 0.5% |
| DCBS - Elderly Housing Bond Sinking Fund | 1,709 | 0.0% |
| DCBS - Other Fund | 16,204 | 0.1% |
| Oregon Lottery Fund | 124,323 | 0.4% |
| DVA Bond Sinking Fund | 106,331 | 0.3% |
| ODOT Fund | 755,395 | 2.4% |
| OLGIF | 250,415 | 0.8% |
| OPUF | 272,453 | 0.9% |
| Total OSTF & Other State Funds | \$ 31,541,713 | 100.0% |

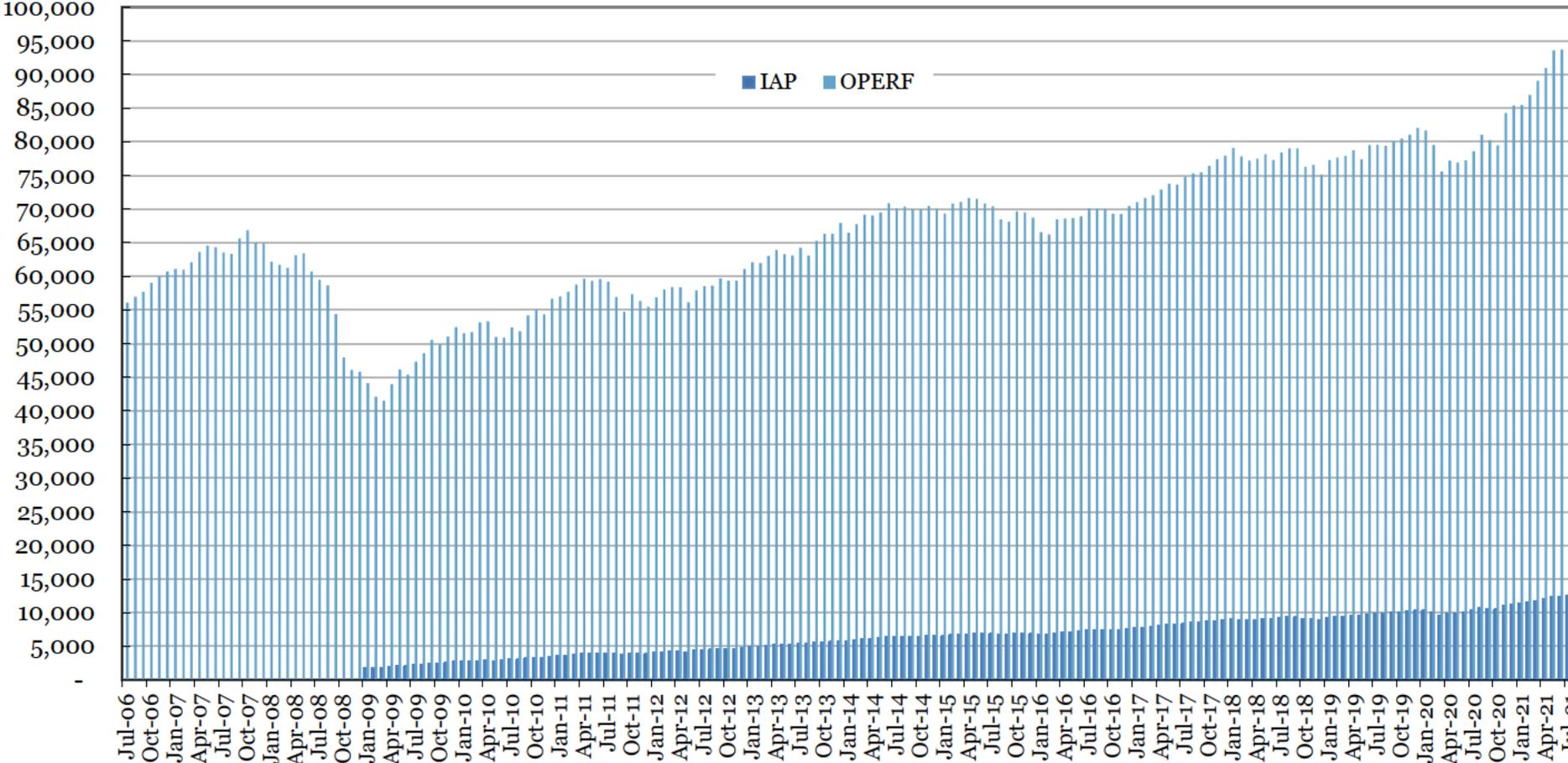
Total of All Treasury Funds** \$ 129,935,438

**Balances of the funds include OSTF or OITP investments, which is why total does not foot.

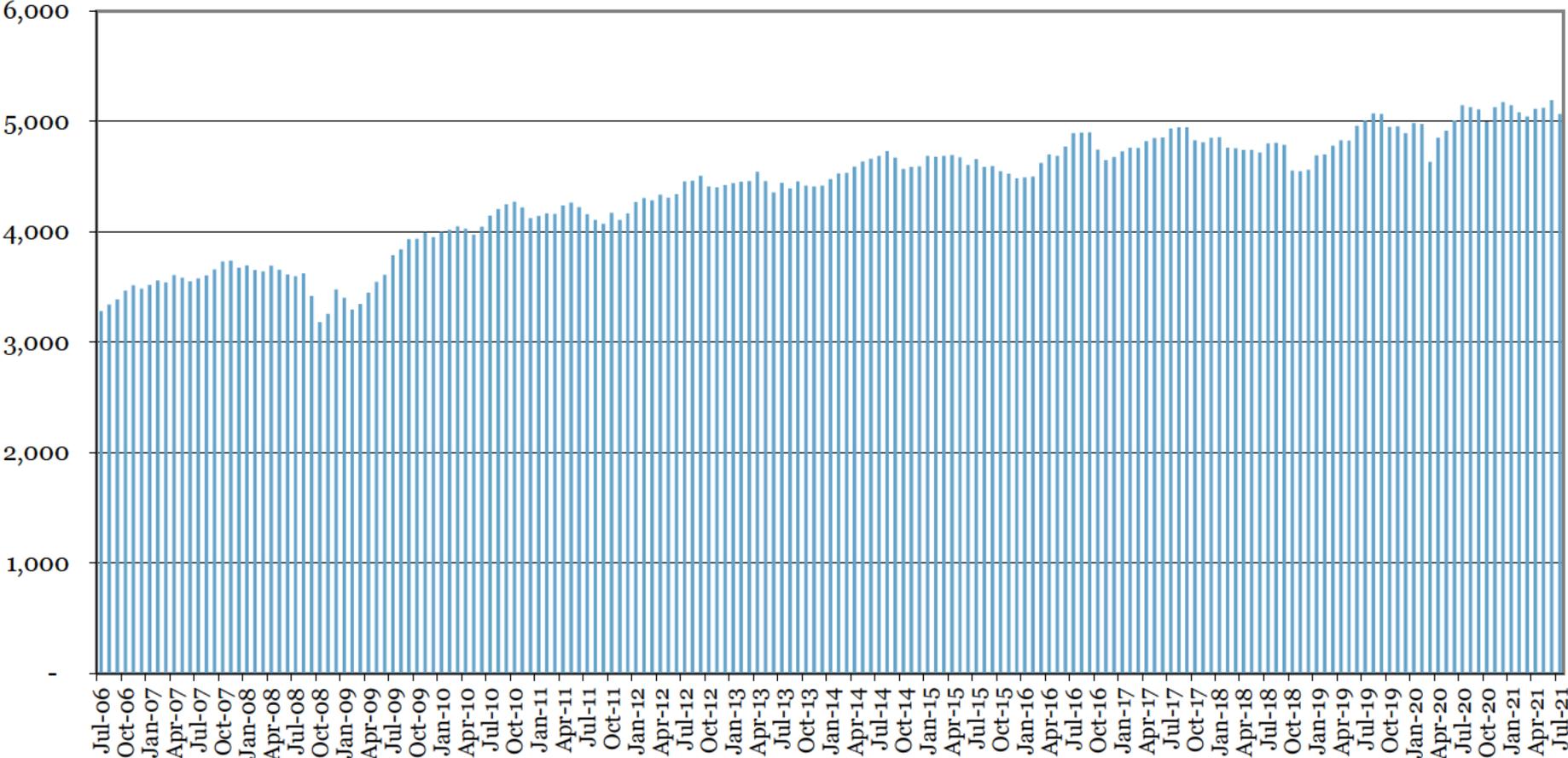


*Other State Funds include DAS Insurance Fund, DCBS Operating Fund, DCBS Workers Benefit Fund, DCBS - Elderly Housing Bond Sinking Fund, DCBS - Other Fund, Oregon Lottery Fund, DVA Bond Sinking Fund, ODOT Fund, OLGIF, & OPUF.

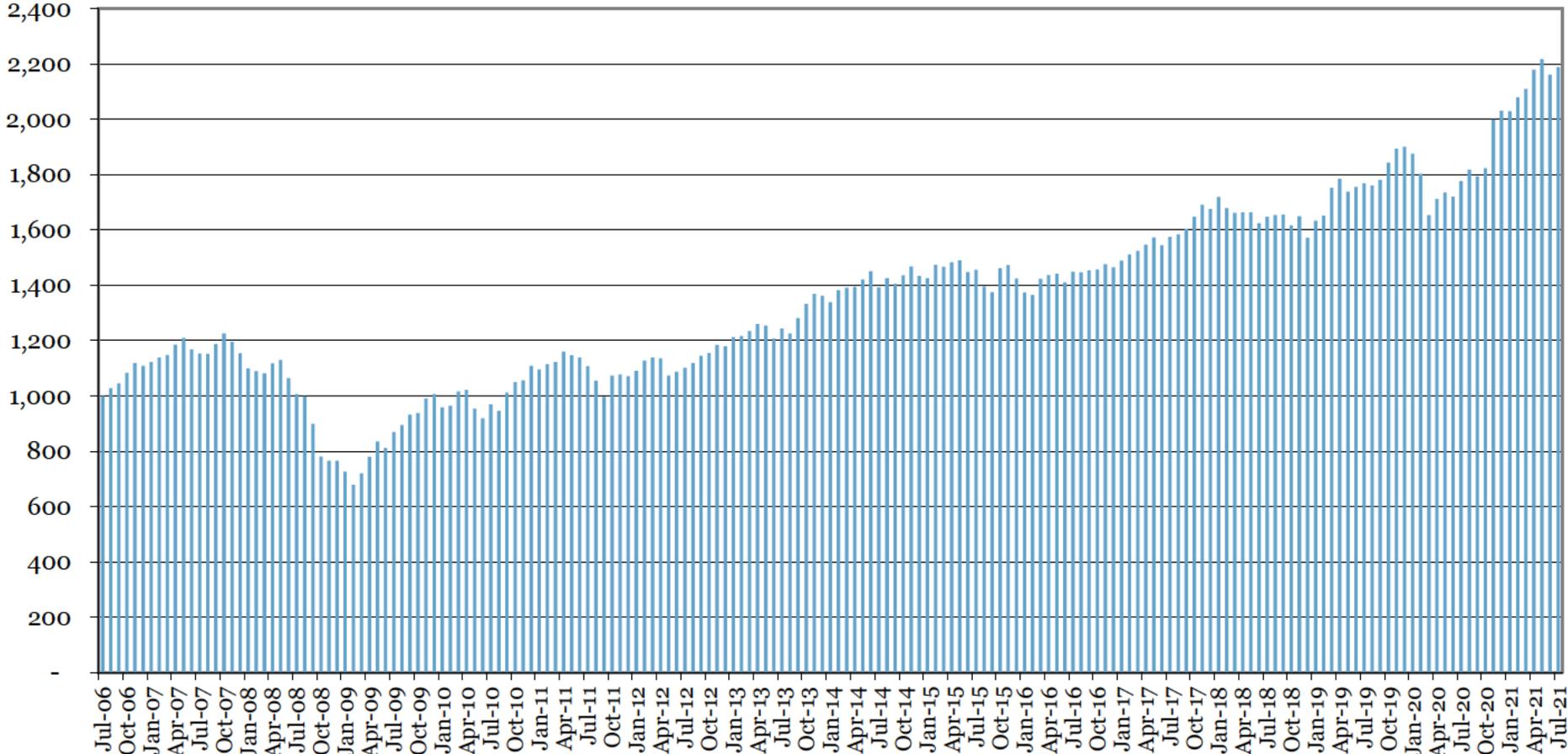
OPERF NAV
15 years ending July 31, 2021
(\$ in Millions)



SAIF NAV
15 years ending July 31, 2021
(\$ in Millions)



CSF NAV
15 years ending July 31, 2021
(\$ in Millions)



TAB 9 – Calendar — Future Agenda Items

2021/22 OIC Forward Calendar and Planned Agenda Topics

| | |
|--------------------------|--|
| October 27, 2021 | SAIF Annual Review Common School Fund Annual Review OSGP Annual Review |
| December 8, 2021 | Public Equity Program Review Fixed Income Program Review Risk Parity Program Review Q3 OPERF Performance |
| January 26, 2022 | Private Equity Program Review Opportunity Portfolio Program Review 2023 OIC Calendar Approval |
| March 9, 2022 | Real Estate Portfolio Review Real Assets Program Review Diversifying Strategies Program Review Q4 OPERF Performance |
| April 20, 2022 | OPERF Asset/Liability Study |
| June 1, 2022 | IAP Program Review Q1 OPERF Performance |
| July 20, 2022 | Operational Annual Review |
| September 7, 2022 | ESG Annual Review Q2 OPERF Performance |

TAB 10 – Public Comments

I am a Oregon PERS retiree following over 20 years as a K-12 School Counselor. My number one personal and professional goal has always been to **protect our youngest and most vulnerable citizens from harm**. Like many citizens, I have in recent years become aware of the devastating effects climate breakdown is causing, which severely imperils our children's future health and safety. It is past time our top decision-makers confront its root cause: the burning of fossil fuels, and take radical action to quickly shift from dangerous, planet-heating fossil fuels to a totally clean energy, zero-carbon economy.

I organize with Oregon's grassroots climate justice groups, and strongly support the powerful and growing Divest Oregon Coalition demands for climate-safe state retirement investments.

September marks the launch of the Divest Oregon Coalition Campaign. The Campaign's demands to you, the overseers of the Oregon Treasury and OPERF, Chair Russell, Ms. Samples, Ms. Enand, Mr. Wilhoite, Treasurer Read, and Director Olineck are as follows:

Shifting Oregon Treasury holdings from risky fossil fuels to climate-safe investments increases our resiliency as a people and as a state and so we demand:

- 1.
- 2.
3. **Immediately: No NEW investments in fossil fuels**
4. since they pose a financial, health, and climate risk to Oregonians.
- 5.
- 6.
- 7.
8. **Disclose Oregon Treasury fossil fuel holdings**
9. by November 2021 -- COP26 (2021 UN Climate Change Conference)
- 10.
- 11.
- 12.
13. **By 2026: Transparently phase out all CURRENT**
14. **fossil fuel investments** and move to climate-safe investments,
15. using a social justice framework.
- 16.

What do we ask from you? In the next month, we expect a response to how the OIC will meet these reasonable demands that are part of your fiduciary responsibility. You may address your response to the Divest Oregon Coalition Communications Director Andrew Bogrand, abogrand@divestoregon.org. You will be hearing more as the campaign progresses!

Sincerely,

Debra E. McGee, M.A., L.P.C.

I am a Oregon PERS retiree following 18 years as faculty at Lane Community College. I organize with, and strongly support the goals of, the Divest Oregon Coalition, and the worldwide Fossil Free divestment movement. At this time when climate chaos is unfolding in real time across our state with unprecedented droughts and fire, **the time has come for a swift managed decline off fossil fuels.**

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Sincerely,
Patricia S. Hine, M.S.
Cmdr., U.S. Navy (Retired)

Statement of Jenifer Schramm, co-lead of Divest Oregon: Reinvest in a Fossil-Free Future Campaign, submitted to the OIC at the September 2021 session

Treasurer Read participated in May in a Q&A session with constituents, and in August sent written answers to those questions not addressed in the live event. Given the time constraints understandably put on public comments in OIC meetings, I will email OIC members Treasurer Read's responses that did not address the points below.

At the heart of responses to questions asked May 5 is a theme we have heard often and understand: "All of our investment decisions are based solely on the returns we can deliver to PERS beneficiaries. This is our fiduciary responsibility from which we cannot stray." We agree.

Here is what we are not hearing. We would like a response to these points:

- 1.
- 2.
3. **Return on investment directly correlates**
4. **with the risk of that investment being stranded, undercut, or rendered worthless.**
- 5.
- 6.
- 7.
8. **Investments in fossil fuels need to be sharply**
9. **and immediately curtailed due to the foreseeable decline in the worth of those investments. If one is not analyzing investments, especially long term investments, for risk of stranded assets, one is not meeting the obligation of a prudent investor.**
- 10.
- 11.
- 12.
13. **Disclosure of investments so your conclusions**
14. **about safety and adequacy of return can be evaluated by those whose money you are investing.**
- 15.
- 16.
- 17.
18. **Especially in those investments you apparently**
19. **consider untouchable once the commitment is made--mutual funds and private equity-- where is the commitment, as a prudent investor, to stop investing in mutual funds and private equity holdings that include fossil fuels? Alternatives do exist!**

We continue to remind you that others in a prudent investor role extraordinarily similar to yours are choosing to dump fossil fuels as an investment. Is that retreat from the fossil fuel sector as a viable investment by other investors and by insurers being factored into your thinking on return? **When the Treasury finally decides to sell, will there be a market?**

There is an [alternative viable path suggested by BlackRock and Meketa](#) and adopted by New York City. **What specifically do you find at fault with their analysis and investment advice?**

Jenifer Schramm
schramm.jenifer@gmail.com
9/3/21

The Raging Grannies of Eugene, many of whom are PERS members, are determined to insure that the children of the world are left with a planet capable of sustaining life. To that end, we implore the OIC to reinvest our hard-earned pensions in renewable energy resources.

As one of our members puts it: "I am a PERS recipient demanding that you divest PERS funds from fossil fuel investments. I am also an investor and can proudly say that my fossil-free investments are doing very well. The only way we can slow down climate change is to get away from using fossil fuels. I understand you have a duty to have your investments make as much as possible for your retirees, and I truly believe that it's even more important that you look out for what would be best for the world. Investing in fossil fuels is no longer a wise place to put our money. Also, fossil fuel companies are spending millions of dollars lobbying against clean energy solutions and millions more funding climate denial and anti-science think tanks. What a waste! Divestment won't pose a serious financial risk to a portfolio and opens the door for more sustainable investments that not only get a good return but also help our communities and the planet. Please... invest for the better good... not just financial returns."

Let's hear from another Raging Granny: "As a longtime state employee, and now a grateful recipient of PERS benefits, I urge the OIC to move our investments from fossil fuel enterprises to companies whose work will mitigate disastrous climate change, not hasten it. Besides, investing in our future is smart. Oil and gas production and distribution are on the way out: a dying (and killing) industry."

The International Energy Agency (IEA) reports that ALL finance for fossil fuel expansion must cease if we are to keep global warming to 1.5 degrees Celsius. There is plenty of room to invest in renewables. It's a simple formula, really: Invest in energy sources that don't kill the planet, thereby making money while living sustainably.

Working for a bright future for us all,
The Raging Grannies, Eugene

Submission by Carole Romm, a PERS recipient, to the OIC for inclusion in the record of the September 2021 meeting; respond to Carole Romm <22metta@gmail.com>.

Is the OIC willing to disclose information required to assess whether it is :

- **managing investment of Oregonians' funds prudently, and**
- **informed by the best scientific knowledge around climate change?**

While climate change has been a concern for decades, 2020 was a notably disastrous year for Oregonians, with deadly heat, fire, drought, and air contamination. Oregon is vulnerable economically for a myriad of reasons; tourism, recreation, fishing, and forestry industries are hurting badly.

According to the OIC meeting minutes, OIC made the decisions noted at the bottom of this document in its management of Oregonians' funds. I am a PERS recipient - and I am deeply concerned about climate change for reasons of both human suffering/death and economic consequence. I believe I speak for many who feel strongly that we have a right to know what investment management decisions OIC is making with our funds--and how our money is being used to enhance or destroy our future.

What process does OIC follow to ensure that Oregonians' money is being invested wisely? How has that process evolved as the climate crisis has intensified?

Given the limited information provided by the Treasury to the Oregonians whose money it invests, and the dominant choice to invest in opaque private equity funds, questions arise that are not answered on the Treasury website. For each investment decision recorded in the OIC minutes:

- What are the contractual terms of the commitment of funds? To what degree has Treasury locked Oregonians into these investments, so as to impair reevaluation based on economic shifts occasioned by factors such as a global pandemic and climate degradation?
- Prior to the commitment of funds, what disclosure is made to the OIC as to how those funds will be invested?
- Once the funds are committed to each firm, what ongoing disclosure as to how those funds are invested is provided to the Oregon State Treasury?
- Once funds are committed to each of these firms, does the Oregon State Treasury have any say in how those funds are invested?
- The pandemic and the climate crisis are global upsets that make it imperative that historical standards of judging investments be reevaluated. What reevaluation of each of these commitments as a wise investment was completed before these 2021 commitments were made?
- How was it determined that each 2021 investment was a prudent investment, given the long-term risk of investment in fossil fuels and in firms that invest heavily in fossil fuels?

2021 OIC decisions as to commitment of Oregonians' funds:

Minutes: January 28, 2021

Private Equity Committee:

January 22, 2021

- Hellman & Friedman Capital Partners X, L.P. \$350M
- Luminare Capital Partners III, L.P. \$150M
- Roark Capital Partners VI, L.P. \$250M

Minutes: March 10, 2021

Opportunity Committee:

March 3, 2021 Whitehorse Liquidity Partners IV, LP \$200M

Minutes: April 21, 2021

Private Equity Committee:

March 16, 2021

- Genstar Capital Partners X, L.P. \$250M
- KKR North America Fund XIII, SCSp \$350M

April 16, 2021

- TA XIV, L.P. \$150M

Real Estate Committee:

March 25, 2021

- AEW Core Property Trust - 108k shares est. \$110M
- Ascentris-OR Cherry Creek West, LLC \$350M

Opportunity Committee:

March 25, 2021

- Blue Torch Credit Opportunities Fund II, L.P. \$100M

[Please read the entire statement if time permits. However, if you need to abbreviate, please consider reading the highlighted portions.]

Dear Investment Council:

I am a PERS member writing in my individual capacity, as well as on behalf of my children, to request that the Council take immediate action to require Oregon to divest from fossil fuels.

For years, I have watched with frustration as my supposed future financial security depended in part upon the success of fossil fuel companies whose actions are actively diminishing that future. Even when fossil fuel stocks were performing well, their success helped hasten a planet beset by climate change. We see the impacts that scientists predicted today, with increasingly frequent severe weather events, including floods, hurricanes, heat waves/domes, droughts, and wildfires. And, as scientists also tell us, these will only get more frequent and severe unless we take immediate and significant actions, including divestment, to rapidly decarbonize. Indeed, just last month, the Intergovernmental Panel on Climate Change (IPCC), the UN body for assessing climate science, issued a report which it described as a "code red for humanity." The report not only discussed the "irrefutable" connection between greenhouse gas emissions and climate change, but also set forth different alternative futures based on the pace of emission reductions. Because of delayed action, all futures are impacted, as is our enflamed or flooded present. However, how bad it gets is still a choice. In part, it is a choice that this Commission makes through its investment policies.

While evidence of the moral case to divest from fossil fuels has been clear for decades, including evidence of how the climate crises disproportionately impacts our most vulnerable, the economic evidence for divestment continues to grow. Simply, fossil fuel stocks have underperformed the market. While evidence of this poor performance abounds, it can also be tracked by my own tenure in PERS. For example, on my first day, July 18, 2016, Exxon's value was 94.82. As of today's date, it is 54.87, a 42.1% decrease. During that same time period, the DOW is up 91% and the S&P is up 109%. I'm using Exxon as an example not only because it is a historically bad actor (which even today fights against climate action), but also because I know, from recent comments by Treasurer Read, that the State invests in Exxon. But you could choose almost any oil and gas stock or all fossil fuels stocks and compare them to the market or even to green energy stocks over the last five or ten years. You will see that fossil fuel investments have underperformed.

And there is no reason to believe fossil fuel stocks' performance will improve. As you might have seen, in May of 2021, the historically conservative International Energy Agency (IEA) identified the path to reach net zero by 2050 and avoid catastrophic climate change. This includes, among other things, no new investments in fossil fuel supply. If we are to listen to these experts and meet stated policy goals, fossil fuel assets will become stranded, further impacting the economic performance of fossil fuel companies. Also, recently-enacted or proposed legislation (including the proposed Clean Electricity Standard, the proposed elimination of fossil fuel subsidies, and the various proposals to make oil and gas companies pay for their pollution), pending litigation in multiple states and countries seeking to hold oil and gas companies responsible for climate change or their misrepresentations relating to climate science, and the continuing cost reductions for renewable technologies all further negatively impact the financial performance of these companies.

Continuing to invest in fossil fuels stocks ignores science, morality, and market trends. It is effectively a bet against a habitable future. And pretending that investment/finance has or should have no role is just

another form of climate denial, and one with significant impact not only to PERS beneficiaries, but also to the planet. As other states and asset managers have realized, no notion of fiduciary duty requires asset managers to continue to invest in underperforming assets, particularly ones whose very existence is incompatible with a habitable planet. It is beyond time for the Council to catch up and to take action to make Oregon divest from these toxic assets.

Sincerely,

Nathan Karman

Relevant Resources:

<https://www.iea.org/reports/net-zero-by-2050>

<https://www.un.org/press/en/2021/sgsm20847.doc.htm>

<https://psci.princeton.edu/tips/2020/8/15/racial-disparities-and-climate-change>

<https://ieefa.org/wp-content/uploads/2019/02/Divestment-Brief-February-2019.pdf>

<https://carbontracker.org/reports/a-tale-of-two-share-issues/>

<https://unearthed.greenpeace.org/2021/06/30/exxon-climate-change-undercover/>

<https://www.irena.org/publications/2021/Jun/Renewable-Power-Costs-in-2020>

<https://www.forbes.com/sites/energyinnovation/2021/06/10/bidens-80-by-2030-clean-electricity-standard-would-unlock-15-trillion-across-the-us/?sh=670b6dfa171a>

<https://theappeal.org/the-lab/explainers/the-climate-change-lawsuits-against-big-oil-explained/>

<https://www.eesi.org/papers/view/fact-sheet-proposals-to-reduce-fossil-fuel-subsidies-2021>

<https://thehill.com/opinion/energy-environment/567594-the-policy-significance-of-the-polluters-pay-climate-fund-act>

<https://gofossilfree.org/divestment/commitments/>

Submitted for Public Comment, Oregon Investment Council Meeting on September 8, 2021

Submitted via email on September 6, 2021

Thank you for the opportunity to submit public comment to the Oregon State Treasury (Treasury) and Oregon Investment Council (OIC). My name is Mike Powers. I am President of Service Employees International Union (SEIU) Local 503 in Oregon. As a labor union, we represent around 72,000 workers in our state. Our essential workers serve as wildland firefighters, adult and childcare providers, food safety inspectors, water quality protectors, janitorial staff, adult and child social service specialists, health care professionals, and more.

I wish to thank Oregon Treasurer Tobias Read and the members of the OIC for their professional management of the Public Employee Retirement System (PERS). Our retired members, and the communities throughout Oregon where they live, benefit from the responsible investments that help ensure a dignified retirement. We are also grateful for Treasurer Read's support for and helping create Oregon Saves, allowing all working Oregonians to save for their retirement.

SEIU 503 is committed to engaging with Treasury and the OIC on climate change and climate justice. The state's pension funds must have smart long-term investments to meet its responsibilities to retired workers. The funds must actively manage the risk of climate change and resulting extreme weather, and actively move capital towards a carbon free economy that will create jobs in every county of the state.

We also understand the intersection of climate change and climate justice. We believe that not addressing this concept poses additional risks to our long-term investments. Addressing climate change and the issues addressed by Environmental, Social, and Governance (ESG) criteria go hand in hand.

As reported in the New York Times, "In 2020, the nation saw a record 22 disasters that each caused damage of at least \$1 billion."¹ As we can see in the west coast fires and east coast flooding, the cost of climate related damage continues to rise in 2021. Insurance companies see and are responding to this risk² as companies and citizens are paying a higher and higher price for climate risk³. Meanwhile, major financial management firms are noting how diverting investments from fossil fuels improves returns.⁴ Similarly, others have observed the financial benefit of investing with ESG criteria.⁵

We are encouraged that Treasurer Read seems to acknowledge these risks and opportunities. In 2015 he stated that, "Climate change has a direct impact on a company's investments and shareholders have a right to know these risks. As your State Treasurer, I will work with businesses and regulators to require disclosure about the serious economic costs that come from investing in carbon"⁶. And more recently he has stated "What we need now is bold leadership and honest conversations from

¹ <https://www.nytimes.com/2021/08/04/climate/tax-polluting-companies-climate.html> 8/4/2021

² <https://www.nytimes.com/2019/12/05/climate/california-fire-insurance-climate.html> 12/5/2019

³ <https://www.nytimes.com/2019/01/29/opinion/climate-wildfires-bankruptcy-california.html> 6/29/2109

⁴ <https://ieefa.org/major-investment-advisors-blackrock-and-meketa-provide-a-fiduciary-path-through-the-energy-transition/> 3/22/2021

⁵ <https://robbreport.com/lifestyle/finance/esg-investing-1234618185/> 6/14/2021

⁶ https://www.oregonlive.com/politics/2015/07/tobias_read_makes_run_for_stat.html 7/8/2015.

state leaders, and decisions that prioritize long-term investments to save lives and protect property”⁷.

We continue to seek to work with Treasury and the OIC to put action to these aspirational statements. To accurately respond to the financial risk to our members from the OIC investments in fossil fuels and the resulting climate change costs and risk, and to develop ESG criteria for PERS investments, we urge Treasury and the OIC to take the following steps:

- Immediately facilitate a climate risk audit to understand the way risk plays out across the Oregon Treasury holdings.
- Disclose the results of the audit showing the risks to our members for the OIC investments in fossil fuels.
- Commit to taking all necessary proactive steps to manage the risk the audit identifies.
- Consider how workers being undervalued and unsafe in the workplace threaten long term returns.
- Consider how racist and sexist structures in the finance system threaten the health of our economy.

We encourage Treasury and the OIC to develop measurable objectives around climate risk, the risk of fossil fuel investments, and performance of our investments using ESG criteria.

Again, thank you for this opportunity to provide comment.

Sincerely,

Mike Powers, President
SEIU 503
powersm@seiu503.org
(503) 967-5539

⁷ https://pamplinmedia.com/pt/10-opinion/518245-414070-read-no-denying-it-climate-change-fight-requires-bold-action?wallit_nosession=1&emci=df6dbd29-1dfd-eb11-b563-501ac57b8fa7&emdi=4e4d60cd-1dfd-eb11-b563-501ac57b8fa7&ceid=20454928 8/11/2021.

Public Comment to OIC Sept 8, 2021

Thank you for the opportunity to comment. Thank you for including ESG in the OIC "Statement of OIC Investment and Management Beliefs". Being proactive decreases risk in quickly changing conditions.

This comment is on behalf of Kristin Edmark and Karl Edmark who is an OPERS member.

The risks associated with fossil fuel investments are accelerating now that more and more citizens associate fossil fuels with worsening climate disasters. OPERS members and Oregon citizens are feeling the crisis personally like Karl whose in-laws lost a home to the Oregon fires in 2020. Other OPERS members are confronted with the climate crisis at work like firefighters, teachers, law enforcement, state budget analysts, healthcare workers and those providing aid to disaster victims.

We would like to highlight some current, local examples to demonstrate the accelerating risk of fossil fuel investments due to increasingly large public outcry and protests.

Last Month **Zenith Energy**, here in Portland, was finally stopped after years of strong opposition. Last summer in 2020, Oregon invested \$150 million in Owl Rock Capital which holds the first lien note on Zenith Energy.

The **Kalama methanol refinery** was stopped this spring 2021 due to massive opposition. In 2020, Oregon invested \$500 million dollars in Stonepeak Infrastructure Fund IV. In addition, as of March 2021, Oregon had previous Stonepeak investments with fair market value of \$870.4 million dollars. Stonepeak was to fund the over \$2 billion dollar construction of the Kalama methanol refinery. Stonepeak has many fossil fuel assets or partners including Casper Crude by Rail. Many in Oregon and Washington are very much opposed to oil by rail especially after the Mosier derailment.

Protests mostly by indigenous people are costing KKR millions in construction delays on the **Coastal GasLink Pipeline**. As of March, 2021 Oregon had previous KKR investments with market value over \$2 billion dollars. This year Oregon invested an additional \$350 million in KKR. KKR has high risk due to many fossil fuel investments.

Oregon has invested \$950 million in Blackstone since the Paris Agreement. This spring 2021 the **Jordan Cove** LNG Export terminal was defeated. Blackstone owns 2.67% of the shares of Pembina which owns Jordan Cove. Blackstone continues to expand its fossil fuel exposure including in 2017 investing \$1.6 billion in the **Rover Pipeline** which is a controversial 700- mile pipeline which has had multiple industrial spills.

The risk is real. There are real losses as growing public outcry stops projects. Other fossil fuel expansions face continual setbacks and terrible press. Does Oregon want to be associated with expansion of fossil fuel infrastructure triggering massive public opposition? Does Oregon want to tie up OPERS money in fossil fuels in long term, illiquid, mostly opaque, funds in this decade of energy transition? Does Oregon want to set a long-term course in direct opposition to Oregon State goals?

Thank you.

Examples of factors presently accelerating risk of investing with managers with fossil fuel exposure

It is not necessary to read these examples at the OIC meeting.

Legislation State Level:

Oregon has passed a moratorium on fracking and fracking bans are currently in place in Washington, New York, Vermont, Delaware (Food and Water Watch)

Oregon 2021 passed Oregon 100% Clean Energy for All which among other things creates a time-table for utility transition to clean energy.

Maine passed legislation requiring its Treasury and \$16 billion pension fund to divest from fossil fuels in line with fiduciary responsibility by 2026.

Baltimore has legislated divestment of its \$850 million pension funds by 2026.

California is close to banning methane heating in new buildings and Massachusetts, New York and Washington are also close. ([Inside Clean Energy: Which State Will Be the First to Ban Natural Gas in New Buildings? - Inside Climate News](#))

California is requiring that half of the registered trucks on the road in 2035 be all electric, and that all new car sales be all electric by 2035, and 15 governors including Gov Inslee and Kate Brown have signed MOUs to do the same in their states.

Legislation National level. According to GovTrack there are 257 bills dealing with climate on the federal level presently. ([Climate change and greenhouse gases Bills - GovTrack.us](#))

HR 2102, **The End Polluter Welfare Act**, cosponsored by Sens. Jeff **Merkley** (D-Ore.), would eliminate subsidies and tax advantages for fossil fuels saving American taxpayers up to \$150 billion over the next ten years.

Legislation International: There is much international legislation regarding climate, fossil fuels and carbon footprint. For example, Costa Rica has extended its moratorium on fossil fuel drilling and exploration until 1950. ([Costa Rica eyes permanent ban on fossil fuel exploration and extraction | Reuters](#))

Another example, Norway will not sell petroleum fueled vehicles after 2025. Slovenia, Netherlands, Iceland, Denmark, Ireland, Israel, Sweden plan no new petroleum fueled vehicles by 2030.

New Zealand was the first government to make Taskforce on Climate-related Financial Disclosures, or TCFD mandatory to be followed by UK and Hong Kong by 2025. At the G-7 US, Japan, Italy, Germany, France and the UK support mandatory reporting of Climate Risk. ([Companies, investors face new pressure from compulsory disclosure of climate risk | S&P Global \(spglobal.com\)](#))

Litigation

Spring 2021 Earthjustice helped stop the Kalama Methanol Refinery.

2018 Earthjustice helped preserve Oregon's Clean Fuel Standard.

May 2021 a Dutch court ruled in a case against Royal Dutch Shell, ordering the oil company to cut emissions 45% by 2030, in line with the goals of the Paris Agreement. (Hanna Ziady, "Court Orders Shell to Slash CO2 Emissions in Landmark Climate Ruling," CNN, May 26, 2021, <https://www.cnn.com/2021/05/26/business/shell-court-case-climate-change/index.html>.)

January 2018 New York and Massachusetts attorneys general sued ExxonMobil, alleging the oil major misled investors and the public about the risks of climate change. ExxonMobil is also under investigation

by the SEC concerning how it values its assets and disclosures related to climate change ([Associated Press. Judge dismisses Exxon lawsuit against climate change probe. March 29, 2018](#))

January 2018 New York City Mayor Bill de Blasio initiated a lawsuit against the five biggest oil companies alleging infrastructure damage caused by climate change to pay for storm resiliency due to storm damage of \$19 billion.

November 2016, the Greater Pennsylvania Carpenters Pension Fund sued ExxonMobil, alleging that the value of reserves were misstated.

2016 the Virgin Islands, a U.S. territory in the Caribbean, charged that Exxon violated its anti-racketeering law by defrauding the government and consumers with misleading statements about climate change. The Virgin Islands withdrew its subpoena when Exxon agreed to drop its countersuit.

2017 A class action lawsuit on behalf of Ecuadorians against Chevron opened lawsuits regarding the rights of indigenous peoples and the destruction of the Amazon.

Accelerating Divestment by others

New York City is divesting 3 of its pensions from \$4 billion in fossil fuel investments and is on track to complete this by 2023. Most securities will be sold by the end of 2021. The total value of these funds is over \$175 billion

New York State has divested from 22 thermal coal companies and 7 tar sands companies as part of its commitment to reach net-zero emissions by 2040. The \$245 billion fund is in the midst of reviewing its remaining fossil fuel holdings including shale oil / gas companies, energy majors and pipeline and service companies by the end of 2024.

Washington DC has already completed fossil fuel divestment for its \$6 billion pension fund.

Minnesota has divested its \$65 billion state pension fund from thermal coal.

Georgetown University (Justin Mitchell, "Georgetown Prepares to Divest from Fossil Fuels, Including from Private Funds," Buyouts, February 12, 2020, <https://www.buyoutsinsider.com/georgetown-prepares-to-divest-from-fossil-fuels-including-from-private-funds/>.)

University of California has committed to exit fossil fuel investments. (Jagdeep Singh Bachher and Richard Sherman, "Opinion: UC Investments Are Going Fossil Free. But Not Exactly for the Reasons You May Think," Los Angeles Times, September 17, 2019)

Macalester College in St Paul, Minnesota ([a statement released 8/23,](#))

Washington State exposure to fossil fuel companies declined to just 2.93% of our total AUM, a decrease of 44.3% from 2019. (<https://www.sib.wa.gov/information/pdfs/esg.pdf>)

Public outcry

2021 this year, the OIC approved \$350 million to be invested in KKR which hold many fossil fuel projects being heavily protested including the Coastal GasLink Pipeline in Northern Canada losing millions due to indigenous protests.

2021 this spring, the Jordan Cove LNG Pembina and Connector Pipeline was stopped. Royal Bank of Canada owns 6.58% and Blackstone owns 2.66% of Pembina stock. Oregon has had about \$469 million invested in Royal Bank of Canada. Oregon invests in Blackstone.

7/9/2020 the OIC approved \$150 million to be invested in Owl Rock Corporation III which holds a first lien note on Zenith Energy. Since the inception of Zenith by Warburg Pincus in 2016 there has been strong public opposition in Oregon and Washington culminating this month with the denial of the Land Use Compatibility Statement and a fine.

February 2020 OIC approved \$500 million to be invested in Stonepeak Infrastructure Fund IV. Here locally, Stonepeak was to fund, if permits and a federal loan guarantee were secured, over \$2.1 billion

for the construction of the Kalama methanol refinery defeated this year by public outcry. Stonepeak has many contentious fossil fuel assets/partnerships for example Casper Crude by Rail.

Oregon has invested \$950 million in Blackstone since the Paris Climate Agreement. But in 2017, Blackstone invested \$1.6 billion in the Rover Pipeline, a controversial 700- mile oil pipeline, which has been beset by multiple industrial spills. Blackstone has large fossil fuel holdings.

There are many examples around the country of public resistance to fossil fuel expansion. For example last month August 2021, citizens were able to temporarily stop construction of the \$9.4 billion Formosa Plastics plant in Louisiana. (13 million tonnes of green house gas/year) ([Multibillion-dollar Louisiana plastics plant put on pause in a win for activists | Louisiana | The Guardian](#))

Alignment with state goals

This summer the state legislature passed Oregon 100% Clean Energy for All which among other things creates a time-table for utility transition to clean energy making Oregon the eighth state to set a 100% renewable goal. Rhode Island passed at about the same time. ([What Oregon's Climate Bill Means for Climate Change \(treehugger.com\)](#))

On March 10, 2020, Governor Kate Brown issued [Executive Order 20-04](#), directing agencies to reduce climate pollution which was followed by extensive rule-making to decrease climate pollution associated with housing and transportation.

2017 Portland passed a moratorium on new fossil fuel infrastructure.

2017 Oregon began a continuous upgrade of the Climate and Health Resiliency Plan.

Proxy voting

We do not believe there is any evidence that proxy voting has decreased any carbon footprint. We feel proxy voting is detrimental, gives investors a false sense of accomplishment, and is an excuse for \$billions to be left in fossil fuels which slows a transition to clean energy. We agree with IEEFa, "Shareholder engagement, however, has proven— for decades— to be an inadequate tool to persuade a company to change its primary business activity. Many fossil fuel companies pose a particular challenge to the shareholder process as the size and potential market for safe and effective use of fossil fuels is shrinking. Further, many fossil fuel companies have either steadfastly opposed all shareholders' input or provided a series of half measures to mollify concerns." [Divestment-from-Fossil-Fuels The-Financial-Case July-2018.pdf \(ieefa.org\)](#)

References for information in comment: Oregon investment information is from the OIC website.

Zenith Energy <https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=64339> and *Owl Rock Capital website*.

Kalama Methanol Refinery and Stonepeak [New Analysis Proves Kalama Methanol Project is a Climate Disaster - Sightline Institute](#)

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Jordan Cove/Pembina and Blackstone [Pembina Pipeline Corporation Ownership | Who Owns Pembina Pipeline Corporation? \(PBA\) | StockDetect](#), [Divestment-from-Fossil-Fuels The-Financial-Case July-2018.pdf \(ieefa.org\)](#)