



OREGON
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Annual Progress Report

Oregon Public Employees Retirement Fund's Net Zero Plan

December 2024

PREPARED BY THE OREGON STATE TREASURY

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Introduction From Treasurer Tobias Read

Oregon State Treasury's investment commitment is narrow in scope but large in responsibility: it's our job to achieve strong, consistent, and sustainable risk-adjusted returns to support secure retirements for Oregon's public employees – whether they have already retired, are years into their service, or have just started their careers. We know that in the future, that job will get harder as the impacts of climate change become greater and more unpredictable.

Here in Oregon, the impacts aren't hypothetical – we've seen these challenges firsthand. That's why, in February of this year, I announced a plan to move the Oregon Public Employees Retirement Fund (OPERF) toward a net zero carbon emission portfolio by no later than 2050. I'm the first to admit there are still many unknowns in that plan, yet I am confident that this is the right strategy to keep achieving strong and consistent returns.

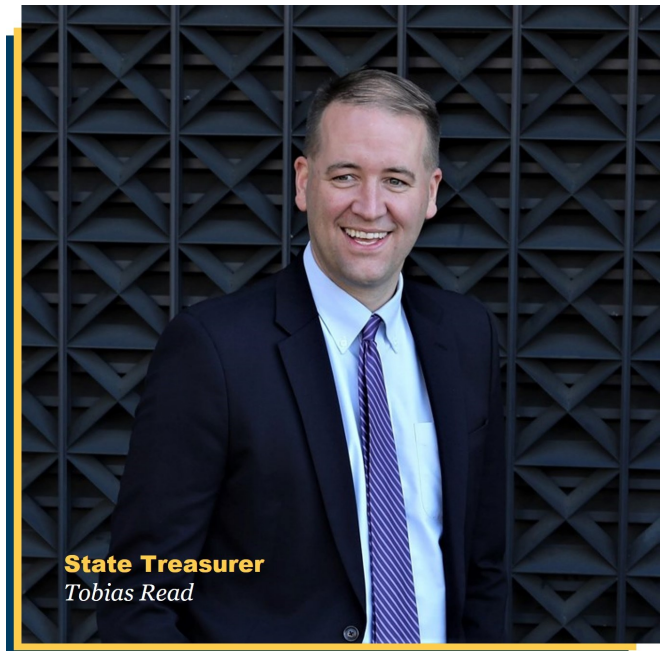
After all, it's our job to look down the road and identify risks and opportunities. Treasury stewards around \$100 billion in the OPERF; we must think and act for the long run on behalf of hundreds of thousands of beneficiaries, putting their financial interests first. With the effects of climate change here today, the decisions we make now will have deep meaning and importance decades down the line.

Making progress on this plan will require a lot, and there will be trade offs for sure. But the cost of doing nothing is even higher. And while we've already taken some meaningful steps within our portfolio, such as more than doubling the amount we have invested in renewable energy while I've been Treasurer, we must increase the pace and urgency. It is important to acknowledge, however, that a comprehensive transition to a lower-emissions economy requires action at the state, federal, and international level. True decarbonization will only happen through policy and government action at all levels, particularly if we want to avoid the worst impacts of climate change on frontline communities and workers.

It is important to continue emphasizing that financial decisions must drive our decision-making, not politics. Climate change will have an economic impact on the fund and create both risks and opportunities. Further, progress will not happen overnight. We've been working for years to better understand the risks to our investments from climate change.

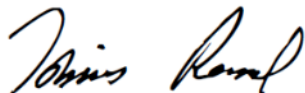
My Net Zero Plan outlines a number of immediate steps that should be taken by Treasury in order to lay a strong foundation for future action. I'm proud to announce progress on some of these initial actions. First, I have appointed a beneficiary advisory group composed of PERS members and retirees to help provide feedback and input directly to me. Second, we have completed our review of our public holdings in certain carbon intensive industries (coal, shale oil and gas, and tar sands) as well as an initial assessment of each company's transition readiness with an eye towards prioritizing future engagement activities. This is a critical step in aligning the plan's actions with direction provided to Treasury by the Legislature via its Coal Act (House Bill 4083). With this report, we have initiated the first in what will hopefully be annual updates on progress towards meeting our net zero goals.

As my time at Treasury comes to a close at the end of 2024, my hope is that the thoughtfulness reflected in the Net Zero Plan my team put together will bring beneficiaries, employers, legislators, stakeholders, and our investment partners together to tackle what I believe is the most pressing challenge facing institutional investors. For some, progress cannot come quickly enough. For others, particularly those living on fixed incomes, they want assurance that the health of their pensions will continue to remain at



the forefront of any future action. I'm excited to see what comes next, and hopeful that Oregonians will continue to rise to the occasion and ensure the health of Oregon's Public Employee Retirement Fund now and long into the future.

Sincerely,

A handwritten signature in black ink that reads "Tobias Read". The signature is written in a cursive style with a large initial 'T' and a long, sweeping underline.

Tobias Read,
Oregon State Treasurer

Treasury's Net Zero Commitment

Oregon State Treasury commits to move OPERF toward a net zero carbon emissions portfolio by no later than 2050, consistent with our fiduciary duty, including an interim 60% reduction by 2035. Here's how we will get there:

Ambition Achieve **net zero portfolio emissions by no later than 2050** across OPERF.

Interim Targets Target a **60% reduction in portfolio emissions intensity by 2035**, relative to 2022 baseline.*

Major Actions

- Triple investments in Real Assets and Private Equity over our existing ~\$2 billion of climate-positive holdings and ensure 10% of active and 30% of passive Public Equities investments are climate- or transition-aligned and will contribute to a clean energy transition by 2035.
- Exclude new investments in private market funds that have a stated intention to invest primarily in fossil fuels.
- Conduct a review of carbon-intensive fossil fuel investments in public markets by February 2025 to ensure they meet Treasury's minimum standards for clean energy transition readiness.
- Use our leverage as limited partners to push for credible transition plans from private market investments that derive >20% revenue from carbon-intensive fossil fuel activities.
- Increase Share Of Portfolio Emissions Covered By Credible Net Zero Transition Plans By 2035, Including 90% of Real Estate Emissions, And 65% Of Emissions Across Both Real Assets And Private Equity.

Additional Actions

- Monitor manager selection to ensure alignment of investment strategy with broader net zero progress.
- Expand engagement activities, including partnerships with other pension funds, to support company transitions, clean energy investments, and incorporation of just transition principles.
- Increase data and reporting capacity to track more thoroughly GHG emissions associated with our investments.
- Establish Net Zero Beneficiary Advisory Committee.



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*Excludes cash, diversifying strategies, risk parity, overlay, asset-backed securities, short-positions, and sovereigns

Section 1: Assessments

Baseline Comparison

Treasury's Net Zero Plan, released in February 2024, included analysis of carbon emissions associated with the Oregon Public Employees Retirement Fund (OPERF). Prior to the work that went into the Net Zero Plan, Treasury had calculated emissions as a simple portfolio percentage, which is highly variable depending on market conditions, short-term performance, and size of the fund. For the Net Zero Plan, the analysis moved to a more thorough emissions intensity calculation, which allows us to make more meaningful comparisons and track reductions over time.

Emissions accounting methodology is a rapidly evolving field, and the standards available can vary significantly by asset class, as can data itself and data quality.

Baseline calculations are for calendar year (CY) 2022, and we will continue using that baseline until a comprehensive update in 2025. The third-party calculations that helped determine the baseline had a higher degree of accuracy for emissions in public markets, but a lower level of accuracy for private markets. As we noted in the Net Zero Plan, where data was incomplete or missing, assumptions were made to fill in gaps, based on factors such as the average emissions for the sector or building type for real estate. For public and private equities, fixed income, and real assets, emissions were estimated if not reported, using company financials. Moving forward, we will continue to collect more detailed data from fund managers that will improve accuracy. Additionally, we will undertake more detailed inquiries and review data providers to determine when and where we can replace estimates with disclosed data or better estimates.

The result from the CY2022 emissions baselining exercise led to an emissions intensity number for each asset class. The chart below shows the shares of emissions attributable to each asset class and the result for carbon emissions emitted per million dollars of assets under management. This number is the baseline against which future emissions accounting exercises will be compared. To determine our emissions intensity numbers, the formula uses absolute emissions calculated through the baselining process. Absolute emissions can be highly correlated to the size of the portfolio. Emissions intensity, on the other hand, is a more consistent metric that gives our investment team a practical goal to work toward rather than just reducing portfolio size. It also allows for more meaningful comparisons of OPERF to itself over time regardless of the size of the portfolio and to other pension funds of different sizes.

BASELINE EMISSIONS DATA*

ASSET CLASS	SHARE OF OPERF EMISSIONS (%)	EMISSIONS INTENSITY	ABSOLUTE EMISSIONS (TCO ₂)
PUBLIC EQUITY			
TOTAL	47%	93	1,819,638
ACTIVE	36%	119	
PASSIVE	11%	56	
REAL ASSETS	30%	128	1,141,429
PRIVATE EQUITY	16%	27	598,157
REAL ESTATE	5%	15	183,062
FIXED INCOME	3%	72	134,646
OPERF	100%	60	3,876,933

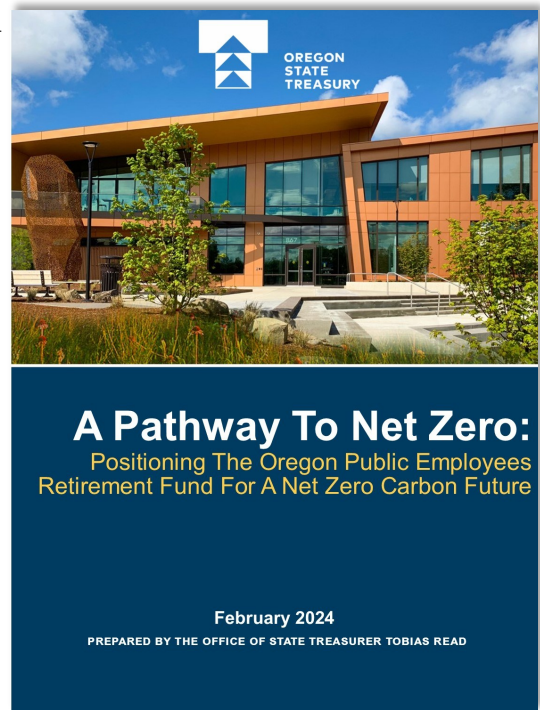
Public Equity and Real Assets have both the highest shares of scope 1+2 emissions and emissions intensity

Each asset class faces different challenges in reducing emissions due to the nature of investments and way in which Treasury invests

*Excludes Cash, Diversifying Strategies, Risk Parity, Overlay, Asset-Backed Securities, Short-Positions And Sovereigns

Source: Emissions calculations based on OPERF portfolio data (as of December 31, 2022) and emissions data from MSCI and ISS

For more information about how Treasury is calculating and tracking emissions associated with investments we make on behalf of retirement beneficiaries, please see [A Pathway to Net Zero: Positioning The Oregon Public Employees Retirement Fund For A Net Zero Carbon Future.](#)



Carbon Intensive Emitters

Treasurer Read's proposal to achieve net zero emissions in OPERF by 2050, presented to the Oregon Investment Council on February 6, 2024, included a directive for Treasury staff to analyze our public holdings of certain carbon-intensive investments to better inform future actions.

Throughout 2024, Treasury has conducted a comprehensive analysis, including engagement with other net zero aligned US pension funds, to establish clear definitions for carbon-intensive emitting industries in response to the Net Zero Plan and to recent legislative and policy developments. This process, which also incorporated the criteria included in H.B. 4083, signed by Governor Kotek on March 5, 2024, focused on three key areas: thermal coal, oil sands (tar sands), and shale oil/gas. The primary objective was to develop concise, operational definitions that would enable proper identification and evaluation of holdings in these sectors.

In formulating these definitions, Treasury prioritized five criteria crucial to investment implementation:

Accuracy/Precision: Ensuring the definitions correctly identify the targeted activities without unintended inclusions.

Unambiguity: Crafting clear guidelines to minimize complex interpretations.

Transparency: Relying on publicly available or documentable information.

Stability: Avoiding definitions that could lead to significant fluctuations in identified entities upon data updates.

Simplicity: Balancing comprehensiveness with practicality to avoid overly complex criteria.

In addition to the conceptual challenges of establishing clear definitions for carbon-intensive emitting industries, Treasury also reviewed several operational concerns. These considerations underscored the need for definitions that are not only conceptually sound but also implementable within our existing investment infrastructure and processes. These concerns address issues such as data availability and integrity, investment process integration, and cost.

After careful consideration of various thresholds and metrics, including those proposed in H.B. 4083 and the Net Zero Plan, Treasury determined to use the following definitions:

Thermal Coal: Companies deriving 20% or more of revenue from the mining of thermal coal (including lignite, bituminous, anthracite, and steam coal) and its sale to external parties. This excludes revenue from metallurgical coal, coal mined for internal power generation, intra-company sales, and coal trading.

Non-Conventional Oil and Gas: Companies deriving 20% or more of revenue (either reported or estimated) from unconventional oil and gas. This includes revenues from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane. It excludes all types of conventional oil and gas production, including Arctic onshore/offshore, deepwater, shallow water, and other onshore/offshore.

Due to very limited exposure to investments in oil sands and lack of a good metric to isolate shale oil and gas, Treasury combined the reporting of shale oil and gas and oil sands as they are both covered under the unconventional oil and gas data Treasury has access to.

These definitions leverage MSCI data available through Aladdin, the investment management platform Treasury utilizes, ensuring consistency with Treasury's current data infrastructure. The 20% revenue threshold was chosen as it provides a balance between identifying relevant companies, maintaining definitional stability, and is consistent with the definitions used by Treasury's peers.

It's important to note that while we considered other metrics, such as potential emissions from reserves and global production percentages, we currently found them less suitable due to data availability issues, potential instability, and limitations in reflecting actual climate impact or financial risk. As the metrics around reserves improves, we anticipate that Treasury will incorporate some of this information into its assessment of transition readiness.

Transition Readiness Framework

Following the establishment of definitions to support our analysis of companies within carbon-intensive emitting industries, Treasury developed a model for assessing the transition plans of these companies to clean energy. This assessment is crucial for compliance with H.B. 4083 and to help guide future engagement efforts so they are in line with our net zero commitment.

After evaluating various frameworks, Treasury has chosen to leverage the Glasgow Financial Alliance for Net Zero (GFANZ) model for assessing transition plans. The GFANZ framework was selected for several key reasons:

Credibility: Developed by leading financial institutions and experts, providing a robust and widely adopted framework.

Financial Institution Focus: Tailored specifically for asset owners, banks, and asset managers, aligning closely with Treasury's role.

Comprehensive Approach: Built on five pillars – Commitment, Targets, Measuring, Strategy, and Governance – covering all aspects of a credible transition plan.

Engagement Emphasis: Provides a framework for engaging with high-emitting companies and sectors.

Net Zero Focus: Directly supports Treasury's pledge to achieve net zero emissions by 2050.

Real-World Impact: Prioritizes actions leading to actual emissions reductions in the economy.

To operationalize the GFANZ framework, Treasury has developed a weighted rating system using currently available MSCI data to proxy each of the five pillars. This approach allows for a systematic and data-driven assessment across the portfolio. The five pillars in the GFANZ methodology and Treasury's model weightings are:

Commitment (30%): This pillar emphasizes the organization's dedication to addressing climate change and integrating sustainability into its core mission.

Targets (20%): Establishing clear, measurable targets for emissions reductions and sustainable investments to guide progress and accountability.

Measuring and Reporting (20%): Implementing robust metrics to assess performance against targets and ensuring transparent reporting to stakeholders.

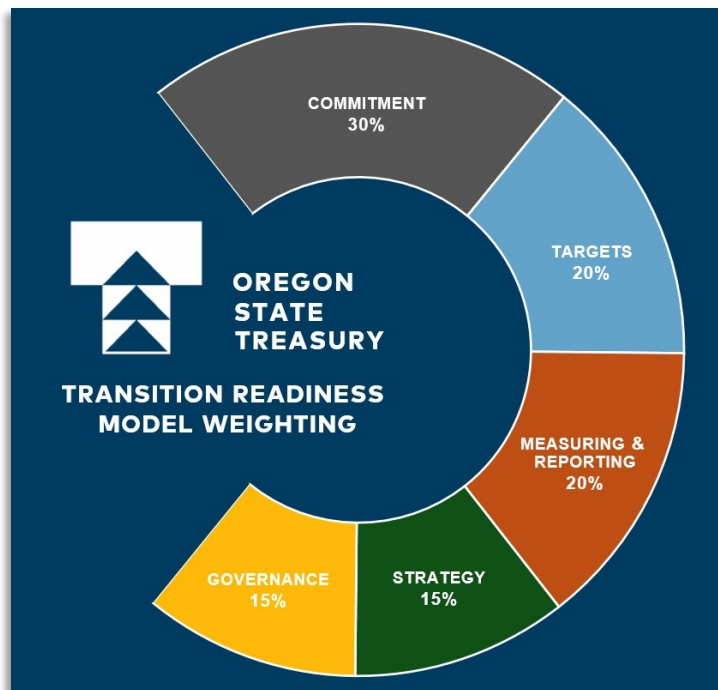
Strategy (15%): Developing comprehensive strategies that incorporate climate-related risks and opportunities into business operations and decision-making processes.

Governance (15%): Ensuring strong governance structures are in place to oversee climate risk management and maintain accountability throughout the organization.

Staff has weighted the pillars to prioritize areas most critical to the current stage of Treasury's Net Zero

Plan, focusing more heavily on commitments and data collection. The weights and metrics used in this model will be periodically reviewed and adjusted to reflect changes in Treasury's strategy and priorities. As commitments and data become more readily available, greater emphasis will be placed on strategy and governance. This flexible approach ensures that the assessment methodology remains aligned with Treasury's needs and the evolving landscape of climate transition planning.

Treasury's model produces a rating scaled from 0 to 100 and serves as an initial assessment tool. This enables Treasury to efficiently identify both companies leading in their transition efforts (which may qualify for exclusion from H.B. 4083 compliance measures) and those requiring more focused engagement. These scores represent a high-level overview rather than a comprehensive evaluation, with more detailed assessments to be conducted during engagement processes or as needed for specific companies.



Portfolio Exposures

While Treasury’s portfolio is predominantly index-based, the composition of holdings naturally fluctuates due to ongoing changes in manager asset allocation decisions and investment processes. The exposures detailed below reflect holdings as of November 30, 2024, and should not be considered static. The number of companies held and their corresponding investment values will vary over time as markets change, indices rebalance, and investment managers adjust their positions in accordance with their strategies and mandates.

Utilizing the definition and model shared earlier in this section, staff determined that as of November 30, 2024, the portfolio had \$28,979,710.04 worth of investments in 21 securities across 18 companies that were identified as “Thermal Coal” companies. The table below lists the investments by company and the companies’ Transition Assessment Score.

Company Name	Base Market Value (as of 11/30/2024)	Transition Assessment Score (0-100)
CONSOL ENERGY INC	\$1,284,128	78
INDIKA ENERGY TBK PT	\$129,523	49
COAL INDIA LTD	\$9,533,051	47
PEABODY ENERGY CORP	\$1,075,754	46
BUKIT ASAM TBK PT	\$687,887	45
DELTA DUNIA MAKMUR TBK PT	\$361,223	41
INDO TAMBANGRAYA MEGAH TBK	\$1,071,604	34
ALAMTRI RESOURCES INDONESIA	\$2,409,203	32
UNITED TRACTORS TBK PT	\$1,359,979	31
ARCH RESOURCES INC	\$1,111,635	31
ABM INVESTAMA TBK PT	\$1,167,321	31
ASTRA INTERNATIONAL TBK PT	\$4,236,170	31
CHINA SHENHUA ENERGY CO	\$2,480,873	28
NEW HOPE CORP LTD	\$608,661	26
SEMIRARA MINING AND POWER CO	\$1,245,678	26
EXXARO RESOURCES LTD	\$49,881	15
SHAANXI COAL INDUSTRY CO	\$63,596	5
HALLADOR ENERGY CO	\$103,541	0
Total:	\$28,979,710.04	Average: 33

Utilizing the definition and model shared earlier in this section, staff determined that as of November 30, 2024, the portfolio had \$343,102,260.18 worth of investments in 131 securities across 39 companies that were identified as Shale Oil and Gas or Oil Sands companies (Unconventional Oil and Gas). The table below lists the investments by company and the companies' Transition Assessment Score.

Company Name	Base Market Value (as of 11/30/2024)	Transition Assessment Score (0-100)
DIVERSIFIED ENERGY CO PLC	\$37,399	79
CONOCOPHILLIPS	\$40,090,425	70
CALIFORNIA RESOURCES CORP	\$1,532,007	68
RANGE RESOURCES CORP	\$4,484,957	64
EQT CORP	\$29,856,980	64
OCCIDENTAL PETROLEUM COR	\$32,833,884	63
EXPAND ENERGY CORP	\$9,740,609	63
ANTERO MIDSTREAM PART/FL	\$3,341,683	62
HESS CORP	\$25,154,140	53
SM ENERGY CO	\$1,788,982	50
DIAMONDBACK ENERGY INC	\$38,662,601	50
CENOVUS ENERGY INC*	\$3,502,434	50
CNX RESOURCES CORP	\$4,405,659	49
CIVITAS RESOURCES INC	\$1,355,573	49
SUNCOR ENERGY INC*	\$30,812,312	48
DEVON ENERGY CORP	\$22,073,747	35
EOG RESOURCES INC	\$20,707,770	33
TEXAS PACIFIC LAND CORP	\$8,200,461	32
ATHABASCA OIL CORP	\$404,548	29
OVINTIV INC	\$5,131,724	29
COTERRA ENERGY INC	\$12,080,568	29
OBSIDIAN ENERGY LTD	\$48,650	28
APA CORP	\$1,669,713	28
PERMIAN RESOURC OPTG LLC	\$5,551,306	28
MURPHY OIL CORP	\$5,806,234	28
NUVISTA ENERGY LTD	\$906,825	28
MAGNOLIA OIL + GAS CORP A	\$1,754,333	27
SITIO ROYALTIES CORP A	\$114,518	27
BIRCHCLIFF ENERGY LTD	\$125,269	27
GULFPORT ENERGY CORP	\$199,006	26
CHORD ENERGY CORP	\$2,462,156	24
APACHE CORP	\$9,166,622	23
COMSTOCK RESOURCES INC	\$602,979	22
CONTINENTAL RESOURCES	\$8,000,507	21
VIPER ENERGY INC	\$3,641,711	11
NATIONAL FUEL GAS Co.	\$1,842,016	8
NORTHERN OIL AND GAS INC	\$1,504,232	7

*Company With More Than 20% Of Revenues From Oil Sands.

Continued on next page

Company Name	Base Market Value (as of 9/30/2024)	Transition Assessment Score (0-100)
MATADOR RESOURCES CO	\$3,479,849	7
SANDRIDGE ENERGY INC	\$27,870	3
Total:	\$343,102,260.18	Average: 37

Section 2: Investment Update

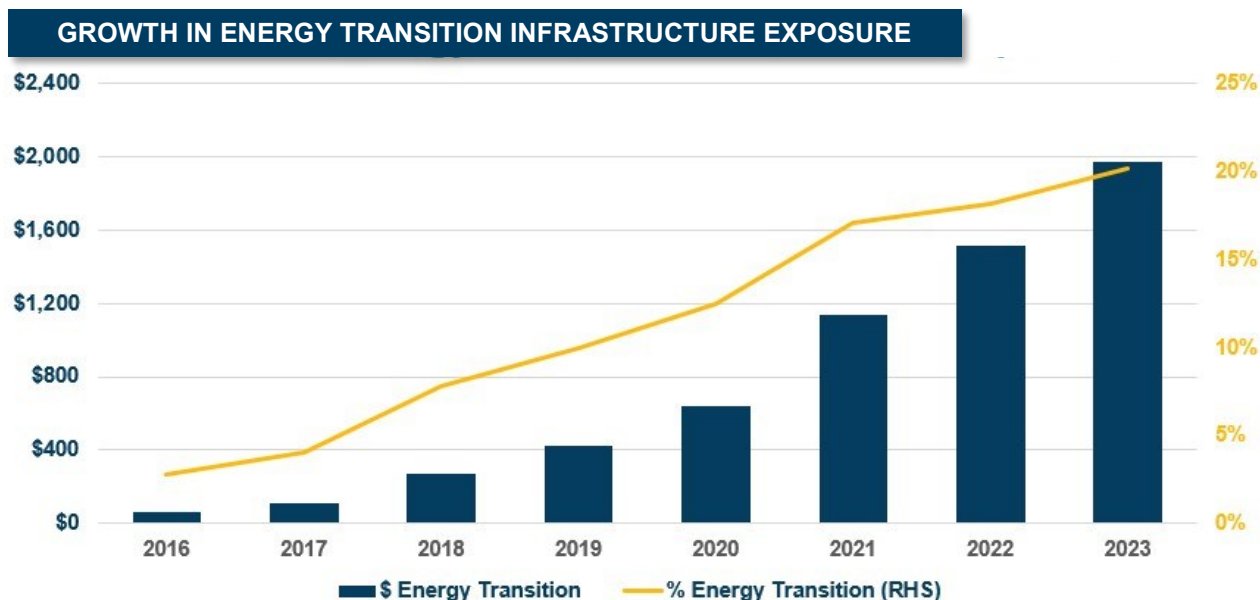
Manager Activity

Private Markets

While only two of the fund series, one real assets and one venture, backed across the private market portfolios are formally mandated to pursue energy transition as an exclusive focus, all of the active managers in the real asset portfolio and roughly half of the managers in the private equity portfolio have adapted their strategy to proactively pursue climate, energy transition, or renewable energy opportunities as an investment theme in recent years. This builds on the reality that all active investment managers in OPERF's portfolio consider environmental risks when reviewing investments.

Energy transition is the fastest growing sub-sector in the infrastructure asset class, with a substantial increase in the number of infrastructure funds and quantum of capital being raised over the past 18 months. To which, staff is currently tracking approximately 110 energy transition funds targeting north of \$170 billion in aggregate capital (which represents 30% of overall infrastructure capital being raised). While a large part of this growth has been driven by platform extensions from generalists General Partners, approximately half of the funds in the market are specialist energy transition General Partners. Despite this growth, the number of established energy transition-focused infrastructure funds remain small, and several challenges exist to making a dedicated allocation, including small average fund sizes and an abundance of first-time funds without track records. Of all the specialist energy transition funds in the market, 77% are "first-time" or "second-time" funds.

Likewise, beginning with the initial analysis conducted in early 2015 as part of Treasury's then-commitment to double its renewable energy holdings, which was achieved in 2018, OPERF has seen its exposure to energy transition infrastructure increase dramatically. This is primarily due to the increase in the overall real assets allocation, but also due to the increasing relative allocation to energy transition infrastructure. As of December 31, 2023, the real assets portfolio had \$2 billion, approximately 20% of the asset class's portfolio, allocated to energy transition infrastructure investments. Of note, this represents the single largest sector allocation in the real assets portfolio. As shown below, the dollar exposure has more than tripled over the preceding three years.



While the above chart only captures energy transition infrastructure investments, the theme of energy transition spans the gamut of real assets sectors, from renewable energy generation and electrical vehicle (EV) charging to battery materials and carbon credits. Note too that the figure does not include decarbonization investment within more diversified businesses (e.g., utilities) which may be investing materially in decarbonization activities (e.g., adding renewables generation), so the actual exposure to "energy transition" is meaningfully higher.

With the exception of a handful of sector-focused funds, OPERF's managers have broad latitude to invest in energy transition infrastructure. While the bulk of exposures come from infrastructure funds, OPERF's natural resources managers participate as well. In staff's experience, diversified infrastructure funds are investing 30-40% of their capital in energy transition-related infrastructure. Staff has also observed an evolution of energy-focused funds, growing their energy transition infrastructure from minimal amounts to the majority of their funds. Of note, this cohort has provided the strongest risk-adjusted returns in the sector, supporting staff's belief that generalist energy managers are uniquely situated to evaluate the space.

Lastly, the real assets portfolio's current energy transition infrastructure exposure is broadly diversified, consisting of over 100 assets/companies and spanning 28 limited partnerships. While renewable energy generation represents the largest sub-industry, the portfolio also has meaningful allocations to battery storage and EV charging investments as well.

Capital Markets

Staff began discussions with numerous investment managers on their climate-related strategies. These conversations focused on actively managed funds (quantitative and fundamental) that try to find excess returns through investments in the energy transition space. Staff are also having similar conversations with prospective managers to better understand their approaches to managing climate risks. Treasury may be able to partner with investment managers in sharing methodologies and data for evaluating the credibility of a company's climate transition plan. This transparency will help Treasury staff refine and enhance our own processes for assessing climate-related risks and opportunities.

In addition to discussions with existing and prospective managers, the public equity team has undertaken gathering climate-related exposure data from existing and prospective investment managers. The challenge here is the limited overlap and consistency of reporting across managers. This effort will be a priority item going forward.

Additional Opportunities

Staff has also had discussions with outsourced solutions groups to create custom climate focused offerings. Partnering with these firms could offer a broader range of investment opportunities and support on capturing climate-related data. Additional investment opportunities are those that may not directly match the investment objectives for private equity and real assets. For example, there are a growing number of credit-related opportunities from the energy transition, e.g., companies that provide financing for solar panels.

Formal integration of Environmental, Social, and Governance (ESG) into Treasury's manager selection process began in 2018 with the hiring of the ESG Investment Officer, however a less formal ESG analysis into the manager selection rubric has existed for some time. In 2021, Treasury decentralized the integration of ESG by requiring every investment officer to more formally address these topics during their meetings with investment firms rather than having the responsibility solely dependent on the ESG Investment Officer. Furthermore, Treasury hired an investment officer focused on corporate engagement, rounding out the organization's abilities in connecting directly with companies rather than through investment managers.

Our collective abilities have grown through these years, but admittedly, there is still more work to be done. Below are specific focus areas that the teams have been working on:

Capital Markets

ESG integration is a component of the Treasury public equity investment process, extending from manager selection through ongoing portfolio monitoring. When conducting due diligence on potential managers, we closely examine a manager's philosophy and approach to integrating ESG factors into their investment process. We expect managers to have a systematic method for identifying and assessing material ESG risks and opportunities. Moreover, our quarterly calls with managers include dedicated time to discuss ESG matters, including any controversies related to portfolio holdings. Treasury's stewardship team often participates in these calls, providing an opportunity to share ideas and perspectives on governance issues.

We look for managers who integrate ESG considerations into their fundamental analysis, incorporating these factors directly into financial models, valuations, and investment decisions. To support this integration, we review managers' access to ESG-based resources, both internal and external. This typically includes subscriptions to ESG data providers, proprietary research platforms, and dedicated ESG specialists who can provide expertise to the investment teams. We also look for robust risk management processes, such as the use of ESG watchlists and materiality mapping, to help identify and monitor potential ESG issues in portfolio holdings on an ongoing basis.

ESG integration is generally carried out by portfolio managers or an external ESG team as a part of the investment process by the portfolio management team, or as a separate overlay by an ESG function at the firm. To ensure accountability, we look for clear operational structures that delineate responsibility for ESG integration within the investment team and firm. This may include dedicated ESG specialists who work closely with portfolio managers and analysts or access to external teams that advise the portfolio team on ESG matters.

Climate risk is an area of particular focus. We expect managers to have an approach to assessing climate-related risks and opportunities, potentially including the use of scenario analysis or other forward-looking tools. Furthermore, regular reporting on ESG integration is crucial. Treasury requires managers to provide periodic reports on their ESG activities, including engagement efforts, proxy voting decisions, emissions, and climate-based metrics. This reporting helps us monitor the effectiveness of their ESG integration and informs our ongoing discussions with managers.

Treasury views engagement and active ownership as key aspects of effective ESG integration. We review managers' stewardship processes to actively engage with companies on material ESG issues and to use proxy voting as a tool to influence corporate behavior. While Treasury retains proxy voting and engagement rights for substantially all of Treasury's public market accounts, we encourage collaboration between our managers and our stewardship team on governance matters.

By emphasizing these elements in our manager selection and ongoing oversight, we aim to ensure that ESG considerations are thoroughly integrated into our public equity investment process, contributing to more informed investment decisions and better long-term outcomes for beneficiaries.

Private Markets

Unlike Capital Markets in which engagement directly with companies is possible, ESG integration in private markets is limited to the assessment of investment managers. Each asset class within the broad private markets areas utilizes ESG integration in a slightly different way, but the baseline assessment is similar to all.

As with any execution risk related factor, staff's approach emphasizes a qualitative assessment of each manager's integration of ESG into the full investment process and the management of their business. While the focus areas vary significantly from manager to manager due to the characteristics of each strategy, the process weaves ESG into the staff's assessment of each firm, their team, strategy, and track record, among other factors. This process memorializes staff's proprietary view of each firm's strengths and weaknesses, and it forms the basis for future monitoring and assessment of progress.

Most firms that we partner with have an ESG committee that is separate from an investment committee, providing insights into each investment opportunity. In addition, many firms also join various organizations, e.g., United Nations Principles for Responsible Investment, that focus on sustainability factors. The output from the ESG committees is particularly interesting for private markets investments in that generally these investment managers are thinking about ESG topics as operators of a business rather than as passive owners.

The acknowledgement that each asset class needs are different has provided Treasury with greater opportunities to learn how best to integrate ESG topics into the due diligence and monitoring process. Private equity continues to utilize the work done by the Sustainability Accounting Standards Board's standards that assists companies in producing data on sustainability metrics that are the most important to an industry. This makes sense as private equity is the asset class that has the most diversified set of exposure to industries. Real estate tends to focus more on physical risk assessment provided by the external firm Four Twenty Seven. They assist our investment managers by providing risk assessments of each prospective and current properties on the following areas: floods, heat stress, hurricanes, sea level rise, water stress, and wildfire. Real assets continue to be focused on the energy transition infrastructure space, so ESG integration in this asset class tends to be much more focused on climate risk.

Examples Of Recent Climate Aligned Investments

Case Studies — Real Asset Portfolio

Year of Investment: 2022

Business Overview: The largest renewable energy independent power producer in the Asia-Pacific region (“APAC”), investing across all technologies (onshore/offshore wind, solar, batteries, and hydrogen).

Year of Investment: 2024

Business Overview: Developer of green hydrogen projects that generate hydrogen by electrolyzing water using renewable and/or zero-carbon electricity.

Year of Investment: 2024

Business Overview: Developer of battery storage projects.

Case Studies — Private Equity Portfolio

Year of Investment: 2024

Business Overview: Leading global provider of standardized and validated ESG data and benchmarking for real assets, including real estate investments, real estate projects in development, infrastructure funds, and infrastructure assets.

Year of Investment: 2024

Business Overview: Vertically integrated manufacturer of high-density polyethylene outdoor living products utilizing recycled and reusable plastics in a circular, 99% waste-free process.

Section 3: Engagement And Advocacy

Treasury's large portfolio of approximately \$130 billion and over 10,000 holdings, combined with limited staff, necessitates a primarily automated proxy voting process. Treasurer Read has selected the Glass Lewis ESG policy as the foundation for Treasury's voting. The ESG policy is the most progressive policy in terms of climate and ESG issues. The process involves Glass Lewis, Treasury's third-party vendor, automatically populating and executing votes based on the ESG policy selected by Treasurer Read. Internal staff monitors voting and can change the votes away from the Glass Lewis recommendation through a process of internal vote change approvals.

Beyond direct climate measures, Treasury's proxy policy supports broader environmental initiatives. It favors shareholder proposals on sustainability reporting, environmental performance reports, and the adoption of environmental principles. The policy also backs proposals on issues like recycling strategies, reducing GHG emissions, and addressing antibiotics in animal agriculture – all of which have indirect but significant climate implications. Furthermore, Treasury's approach to mitigating climate risks through proxy voting is complemented by its overall ESG strategy. The policy supports diverse board composition, links executive compensation to sustainability metrics, and advocates for corporate political spending disclosure. These measures, while not exclusively climate-focused, contribute to a governance structure more likely to address climate risks effectively.

In 2024, Treasury voted in 5,333 meetings on over 50,305 individual items.

Treasury leverages its influence to encourage companies to take meaningful action on climate change. Treasury has been addressing climate change through various corporate governance mechanisms – from shareholder proposals to board composition and executive compensation. This strategy reflects a recognition of climate change as a critical financial and operational risk that requires attention at all levels of corporate decision-making.

In director elections, Treasury's policy takes a nuanced approach based on the company's climate risk profile and disclosure practices. For companies believed to have significant climate risk (companies in high-emission industries identified as financially material by SASB) Treasury votes against the chair of the board if the company has not adopted a net zero emissions target or ambition and failed to produce reporting aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. For all other companies, Treasury votes against the board chair if the company has not established any forward-looking GHG emissions reduction targets or produced sufficient sustainability reporting. This strategy aims to ensure climate risk management and transparency at the highest levels of corporate governance. Treasury voted against 11% (3,095) of director nominees due to environmental concerns, reflecting the policy's robust implementation.

In compensation "say on pay" votes, Treasury votes against remuneration plans if compensation is not linked to ESG metrics, including climate change targets. This approach incentivizes corporate leadership to prioritize climate action. Treasury notes this has been a more significant concern in the U.S. than non-U.S. markets, with more votes against proposals in U.S. markets compared to non-U.S. markets. Treasury voted against 36% (1,213) of proposals due to ESG concerns.

Treasury's proxy policy, based on the Glass Lewis ESG guidelines, is generally supportive of environmental and social shareholder proposals aimed at enhancing a company's policies and performance on these issues. The ESG policy's approach to shareholder proposals reflects a recognition that environmental and social issues, particularly climate change, present material risks and opportunities that companies need to manage effectively for long-term shareholder value. Treasury comprehensively supported 90% (139) environment-related shareholder proposals, and 95% (110) which were specifically related to climate issues. This demonstrates Treasury's commitment to using its shareholder power to encourage companies to address climate risks and opportunities.

Treasury recognizes corporate engagement as pivotal to our investment strategy and a critical tool for fulfilling our fiduciary duty. Treasury's stewardship program aims to have proactive, consistent, and meaningful engagement with companies in our portfolio to address long-term risks, capitalize on opportunities, and drive sustainable value creation.

We prioritize direct communication with company management and boards on material issues. Treasury's ongoing engagements focus on key areas including climate risk management, transition readiness, board diversity, executive compensation, and sustainable business practices, and are generally driven by topics in the corporate proxy. Treasury also routinely attends and is available to meet with corporations at annual industry events such as the Society for Corporate Governance annual meeting and Council of Institutional Investments (CII) spring and fall conferences.

In 2024, staff advanced our engagement methods, initiating a campaign and filing of proxy proposals. The campaign, named "Nomination Neutrality," centered around governance concerns relating to advance notice bylaw provisions and director elections. Nomination Neutrality is a corporate governance principle that Treasury is promoting to ensure fairness in the process of nominating and electing company directors. The concept aims to level the playing field between board-nominated candidates and those nominated by shareholders. Treasury engaged with and filed shareholder proposals at nine companies including Duke Energy and Chevron Corp. All nine proposals were implemented by the companies and withdrawn without going to a vote.

Additionally, with limited staff and broad holdings, Treasury seeks to amplify our voice on critical issues by joining with other institutional investors and participating in collaborative initiatives, including:

Council of Institutional Investors (CII): CII promotes policies that enhance long-term value for U.S. institutional asset owners and their beneficiaries.

International Financial Reporting Standards Foundation: A not-for-profit, public interest organization established to develop high-quality, understandable, enforceable, and globally accepted accounting and sustainability disclosure standards.

CDP (formerly Carbon Disclosure Project): A not-for-profit charity that runs the global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts.

Science Based Targets Initiative: Provides defined pathways for companies to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change.

Ceres: A nonprofit advocacy organization working to accelerate the transition to a cleaner, more just, and sustainable economy.

Human Capital Management Coalition: A cooperative effort among a diverse group of asset owners to further elevate human capital management as a critical component in company performance.

Through these engagement activities, Treasury strives to influence corporate behavior, mitigate long-term risks, and promote sustainable business practices that align with the interests of our beneficiaries and contribute to a more resilient global economy.

Treasurer Read has strived to reiterate to legislators and other stakeholders that the dollars invested and managed by Treasury, and the Oregon Investment Council, are owned by current and future beneficiaries, not the state nor employers who have made contributions to employees' pensions. These are trust dollars, not public dollars, once they hit OPERF.

We believe that direct communication should continue as we move into implementing the Net Zero Plan. To facilitate that communication, Treasurer Read has established a Net Zero Beneficiary Advisory Committee. It is an advisory group that provides feedback directly to the Treasurer himself and is comprised of representatives from a number of public employee unions as well as PERS retirees. To date, this group has provided input on the development of the Carbon Intensive review that is summarized in this report. Because this group is advisory to the Treasurer directly and is not appointed by Legislature or Governor, Treasurer Read has made it clear that the next Treasurer will need to determine the composition, frequency, and role of this group moving forward in 2025 and beyond.

In 2024, Treasury continued our engagement with existing and new organizations working toward net zero carbon emission operations. We are already members of and/or work with the following: IFRS Foundation, CDP (Science Based Targets initiative), and Ceres. We have continued our work with other pension funds and shareholder representatives, both directly and through organizations like For The Long Term, to encourage companies to take net zero-aligned actions.

Treasurer Read also believes that state and federal policy needs to support the transition to a lower carbon future in order for Oregon's efforts to achieve our net zero pension goals. That is why he testified in support of H.B. 4083 in the 2024 Oregon state legislative session. H.B. 4083 seeks to build on the Net Zero Plan's efforts to focus on certain high carbon emitting industries, such as coal, tar sands and fracked oil and gas. In many ways, this legislation codifies Treasury's efforts to identify companies in these industries who are lagging in efforts to transition to a low carbon future, and then prioritize these companies for engagement. The Treasurer applauded efforts by legislative sponsors to avoid writing inflexible investment policy into statute, and acknowledged the collective efforts to respond "...to the risk climate change poses to our investment returns and pension fund." This direct engagement on legislative proposals was in addition to Treasurer Read's continued efforts to build a deeper understanding of Treasury's fiduciary responsibilities among legislators, particularly as it relates to efforts to address climate-related risks.

In May 2024, Treasurer Read signed on to a statement from PGGM, a not-for-profit cooperative pension fund services provider, alongside 13 investors representing around \$3 trillion in assets under management supporting the position of the Council of Institutional Investors that the Securities and Exchange Commission (SEC) should be the arbiter of the shareholder proposal process. This issue came into focus after Exxon Corporation filed a lawsuit against two shareholder proposal proponents, which effectively bypassed the established SEC no-action process. Investors, Oregon included, were concerned that companies moving these disputes to courts will have a chilling effect on shareholders' ability to submit proposals. Additionally, this was a major reason why Treasury voted against Exxon's CEO and Chair, Darren Wood, and Lead Independent director, Joseph Hooley.

In August 2024, Treasurer Read also joined other institutional investors representing over \$2 trillion in assets under management to submit an amici brief to express the urgency and importance of investors of the SEC's proposed rules included in The Enhancement and Standardization of Climate-Related Disclosures for Investors. These rules highlight the need for "reliable, decision-useful, and comparable climate risk information" in order to inform investors' actions. This brief built upon Treasurer Read's March 2021 letter to SEC Chair Gary Gensler supporting the Commission's efforts to "ensure that financial market participants broadly have the information required to make informed decisions about their investments."