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May 21, 2020

Ms. Theresa Taylor
Chair of the Investment Committee
California Public Employees' Retirement System
400 P Street
Sacramento, CA 95814

Re: CalPERS' response to the Taskforce on Climate-Related Financial Disclosures

Dear Ms. Taylor,

Wilshire is pleased to provide its opinion of CalPERS' response to the Financial Stability Board's Taskforce on Climate-Related Financial Disclosures (TCFD). In its 2017 report, the Taskforce emphasized the importance of transparency in pricing climate change risks to support informed, efficient capital-allocation decisions. TCFD provides a global framework for voluntary, consistent disclosures of: the **governance** oversight of climate-related risks; **strategy** for identifying climate-related risks and opportunities over different time horizons; the **risk management** process for assessing and integrating both physical and transition risks into investment decisions; and the utilization of climate-related **metrics** as part of the investment process.

In forming its opinion, Wilshire reviewed a small sample of climate-related financial risk disclosures by institutional investors globally and engaged with Staff to understand its 12-month long intensive climate-related research process that involved resources across different programs and functions. While more than 1000 public- and private-sector organizations have announced their support for TCFD, adoption of the recommendations has yet to reach critical mass. As one of the first asset owners in the US to adopt the TCFD recommendations, CalPERS' response showcases (i) the depth of its understanding of the physical and transition risks

from climate change by drawing on a range of different metrics, and (ii) the benefits of risk management measures being adopted by CalPERS, including through advocacy and engagement.

Engagement: an effective climate risk management strategy

An increasing number of institutional investors are pursuing alternative strategies to address carbon risks through engagement, with the aim of remaining invested to be able to maintain an influence on corporate activities. Active engagement makes concrete demands of companies, including calling for greater transparency to enable investors to assess the robustness of the business strategy against a range of climate change scenarios. Through its leadership of the highly effective Climate Action 100+ initiative, CalPERS' engagement strategy on climate change is beginning to demonstrate impact, with the potential to significantly reduce greenhouse gas emissions. For example, CDP, an international non-profit organization, found that if the Climate Action 100+ target companies were to reach net-zero emissions by 2050, and if CalPERS' ownership in these companies remained constant, the total avoided GHG emissions would be approximately 100 million metric tons of CO₂e by 2050, close to what the country Chile emits every year.

Analyzing multiple climate-risk metrics: there is no one "silver bullet"

Carbon foot printing has become one of the most familiar ways for investors to gauge the impact of their investments on the environment. In addition to making progress on its private equity portfolio, CalPERS has now carbon footprinted 90% of the total fund and should be applauded for providing, for the first time, the carbon footprint of its real assets portfolio in its TCFD response. Similar to other investors, in addition to emissions from its energy investments, CalPERS' emissions are spread across industries from agriculture, food, forest products, materials and buildings and transportation.

Despite their popularity, due to their backward-looking nature, investors often find carbon foot printing exercises provide them with limited insights into the effects of climate change on corporate profitability or value, for example. Acknowledging that climate change risks are multi-faceted and there is no one "silver bullet" climate-risk metric to help best inform investment decisions, CalPERS' TCFD

response introduces the forward-looking metric of Climate Value-at-Risk (CVaR). CVaR looks at a portfolio's potential exposure to transition risk, from policy and technology changes, and physical risk, from climate damage and disruption, over a 15-year time horizon. CalPERS' initial Carbon VaR analysis points to significant exposure to climate risk and reveals that while the portfolio currently has lower exposure to transition and physical risks than the global economy proxy, further work is required to understand how different climate risks may impact CalPERS' public market portfolio in the long term. According to the response, CalPERS' "green" investments through private asset classes (both Real Assets and Private Equity), are just over \$12 billion or ~18% of private assets are invested in Climate Solutions, Renewable Energy and Sustainably Certified Buildings as of December 31, 2018.

Potential future climate risk metrics to consider

As one of the first US asset owners to respond to TCFD, Staff readily accept that there are some future climate-related research areas that may warrant further investigation. For example, in 2019 CalPERS included language regarding carbon pricing policy in its Governance and Sustainability Principles and has advocated publicly for a clear carbon pricing framework that approximately prices the externalized cost to the economy and society from greenhouse gas emissions. By taking steps towards understanding its exposure to changes in the price of carbon across different industries and asset classes, CalPERS may be better positioned to make more informed long-term investment decisions. For example, Schroders (Climate Change: Redefining the risks, 2017) found that almost half of listed companies could face a rise or fall of more than 20% in earnings before interest tax and depreciation (EBITDA) if carbon prices rise to \$100 per ton. While the fossil fuel sector is highly exposed, Schroders find the most exposed sectors are the building materials and iron and steel sectors, "that emit large quantities of greenhouse gases, have relatively thin margins and high price elasticity, so that falling volumes more than offset the benefits of rising prices."

Conclusion

While climate change has already had observable effects on the environment, society and the economy, it is unlikely we will ever be able to fully anticipate its future impact on institutional portfolio values. Climate change-related risks, such as the scale and disruption from technological innovation, for example, or the timing of physical impacts on real assets and supply chains, are inherently uncertain. However, as with all areas of investing, just because we cannot *predict*

the specific impacts of climate change- related risks that does not mean we should not try to *assess* its potential effects, sooner rather than later.

By building a detailed understanding of portfolio exposures to different climate-related risks, CalPERS may be in a better position to make more informed investment decisions over the long-term. Wilshire is comfortable that CalPERS' TCFD response provides helpful transparency about its approach to overseeing, managing and monitoring climate change risks. Its response sends an important signal to other market participants about the importance of making timely and detailed climate-related financial risk disclosures.

Sincerely,

A handwritten signature in black ink that reads "Daniel Ingram". The signature is written in a cursive, slightly slanted style. It is contained within a thin, light gray rectangular border.

Daniel E. Ingram