

Climate-Aware Investing in Global Public Equities

CalPERS/FTSE Russell
July 15, 2024

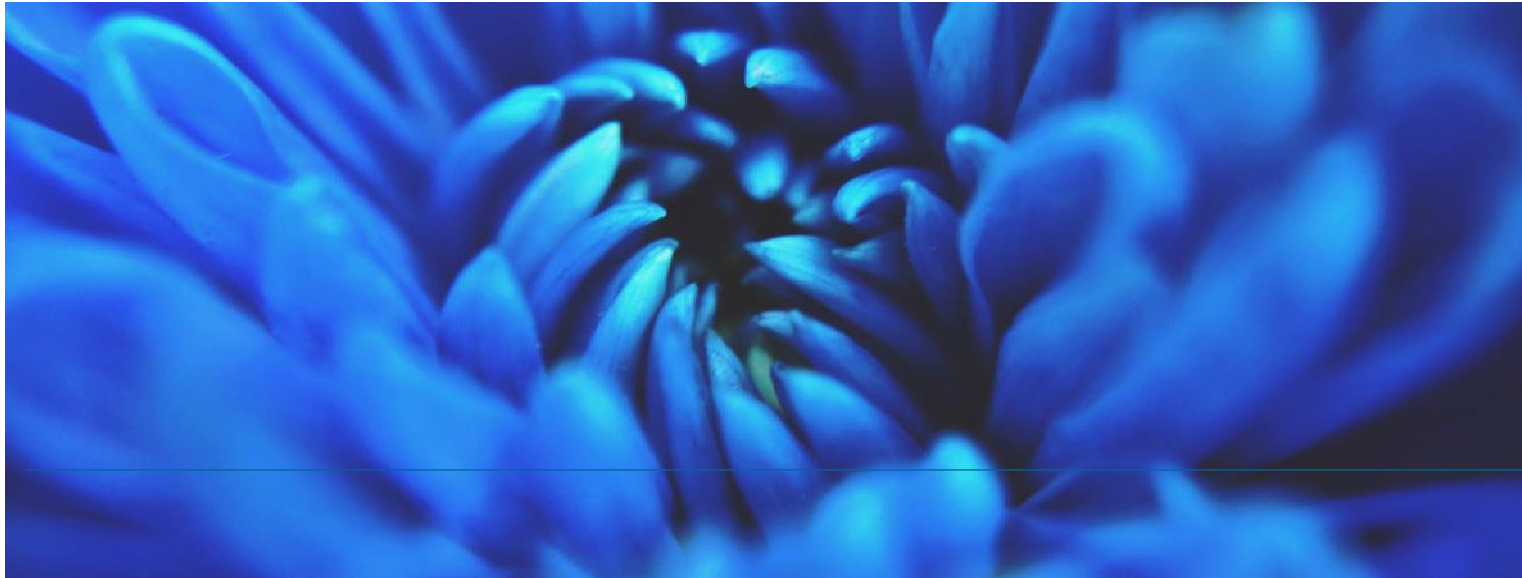
Alpha and Beta Climate-Aware Opportunities in Global Equities

- The materiality and complexity of the transition are supportive of an **active investment approach**.
 - Climate-centric active strategies fall under three main categories
 - Decarbonization/natural resources efficiency excellence at a reasonable price
 - “Brown-to-Green”
 - Climate Solutions Leaders
- The systemic nature of the transition also makes it a candidate for integration in the strategic asset allocation using **systematically implemented and scalable “passive” indices**.
 - There is a variety of climate-aware indices with different objectives

	Exclusionary	Carbon Reduction	Climate Leaders	Climate Transition	Paris Aligned	Climate Impact
Strategy Primary Objective	Exclude companies with fossil fuel reserves	Reduce carbon intensity and stranded asset risk	Select companies with potential to lead in the climate transition	Reduce transition risks while also increasing exposure to climate solutions providers	Keep the portfolio implied temperature rise between 1.5°C and 2°C while reducing transition & physical risks	Track impact KPIs like GHG, water, and waste



Incorporating the Low Carbon Transition into Benchmarks and Passive Portfolios



Tony Campos and Carolyn Eagle – FTSE Russell

Presentation to CalPERS



- I What asset owners are saying about Sustainable Investment
- II Energy transition and growth of the global green economy
- III Designing indexes that incorporate the transition to a low carbon economy



What Asset Owners are saying about Sustainable Investment

2024 FTSE Russell Global Survey of Asset Owners on Sustainable Investments



• What?

- Online survey covering Sustainable Investment topics



• Where?

- Global (15 countries represented this year)
- Survey offered in English, Japanese, and Mandarin



• When?

- March 4 – April 8, 2024



• Who?

- 303 asset owners with assets under management totaling US\$9.2 trillion
- Regional response breakdown:
 - 93 Americas
 - 104 EMEA
 - 106 Asia Pacific

Early look at key findings...

- 1) Nearly three-quarters (74%) of respondents say that they are implementing or evaluating Sustainable Investing as part of their investment strategy.
 - Regionally, the Americas score remains in an up-trend and is now on par with the global average (72% Americas vs 74% Global), which is lower year-over-year (80% in 2023)
- 2) In the Americas, the impact of climate risk on investment performance is now a primary concern for three-quarters (75%) of respondents.
- 3) Sustainable Investing is still being implemented with a hybrid approach including actively managed strategies and passive index strategies but for the first-time, the share of passive implementations now exceeds the share of active strategies.



Energy transition and growth of the global green economy

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What is the Green Economy?

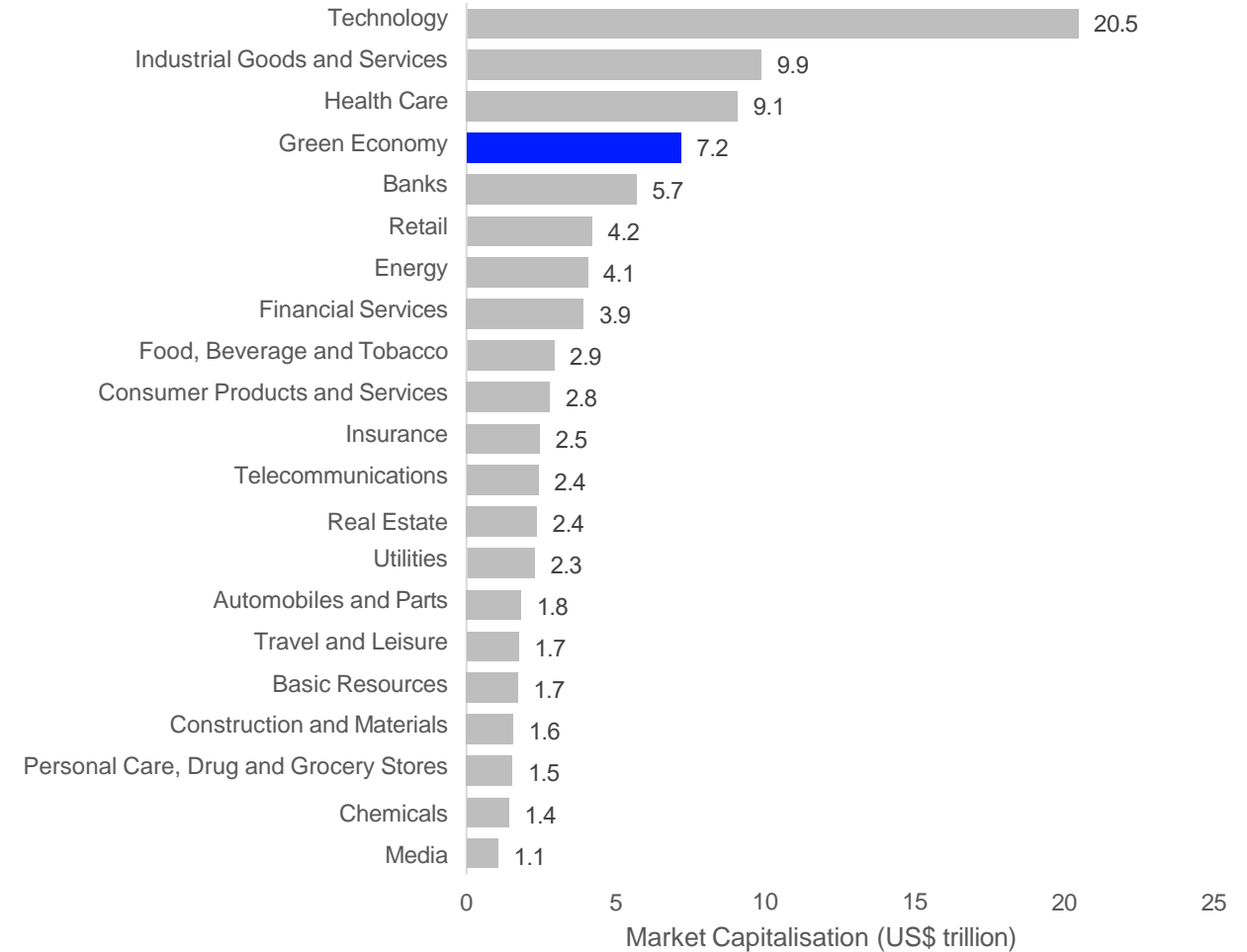
- FTSE Russell Green Revenues Classification System
 - 10 Sectors - 64 Subsectors – 133 Micro Sectors

Energy generation	Energy equipment	Energy management & efficiency	Environmental resources	Environmental support services	Food & agriculture	Transport equipment	Transport solutions	Waste & pollution control	Water infrastructure & technology
EG	EQ	EM	ER	ES	FA	TE	TS	WP	WI
Bio Fuels	Bio Fuels	Buildings & Property (Integrated)	Advanced & Light Materials	Environmental Consultancies	Agriculture	Aviation	Railways Operator	Advanced Irrigation Systems & Devices	Cleaner Power
Cogeneration	Cogeneration	Controls	Key Raw Minerals & Metals	Finance & Investment	Aquaculture	Railways	Road Vehicles	Desalination	Decontamination Services & Devices
Clean Fossil Fuels	Equipment	Energy Management	Recyclable Products & Materials	Smart City Design & Engineering	Land Erosion	Road Vehicles	Video Conferencing	Flood Control	Environmental Testing & Gas Sensing
Geothermal	Clean Fossil Fuels	Logistics & Support			Logistics	Shipping		Meteorological Solutions	Particles & Emission Reduction Devices
Hydro	Fuel Cells	Industrial Processes			Food Safety, Efficient Processing & Sustainable Packaging			Natural Disaster Response	Recycling Equipment
Nuclear	Geothermal	IT Processes			Sustainable Plantations			Water Infrastructure	Recycling Services
Ocean & Tidal	Hydro	Lighting						Water Treatment	Waste Management
Solar	Nuclear	Power Storage						Water Utilities	
Waste to Energy	Ocean & Tidal	Smart & Efficient Grids							
Wind	Solar	Sustainable Property Operator							
	Waste to Energy								
	Wind								

133 Micro Sectors

The Green Economy is Big, Diverse, and Growing

- **With a US\$7.2 trillion market capitalization, approximately 10% of all listed equities** – the Green Economy has doubled in size since the Paris Agreement in 2015
- If considered as a standalone sector the Green Economy would be **the 4th largest sector in the global equity markets**
- The **green economy is diverse**
 - more than 3,500 listed companies
 - About one-third of traditional sectors derive 10% of more revenues from green products/service
- The **green economy is growing faster than the rest of the market**
 - Green market cap 10-year CAGR of 13.8% versus 8.3% for global equity markets
 - Green revenue 10-year CAGR of 7.6% CAGR versus 5.3% global equity markets

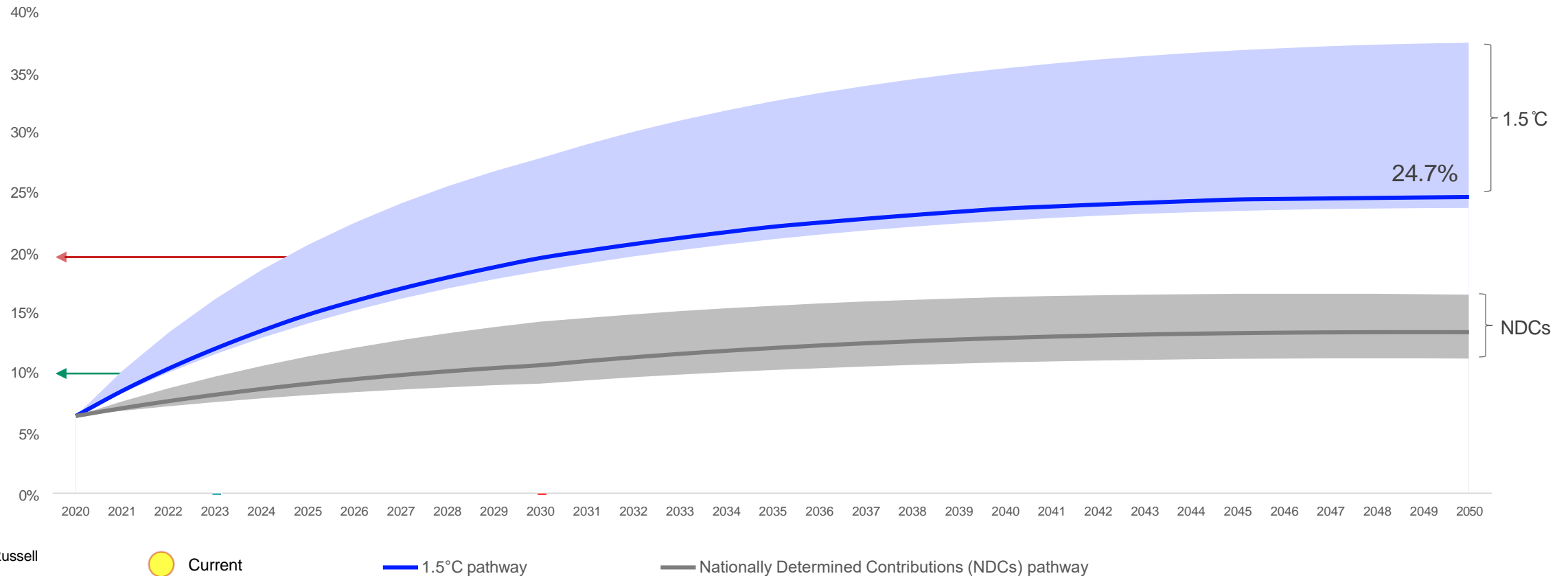


Note: Green Revenue weighted market capitalization, calculated by aggregating market capitalization multiplied by company green revenues. Based on the latest green Revenues data (financial year 2022 or 2023) and the free float market capitalization as of April 2024.

Source: FTSE Russell Green Revenues data as of April 2024. LSEG Free Float Capitalization data as of April 2024.

Green Economy Growth Projections

- Aligning the global economy with a 1.5°C trajectory implies a **doubling in size** of the Green Economy by 2030, to represent approximately 20% of global equities' market capitalization.



FTSE Russell



Current

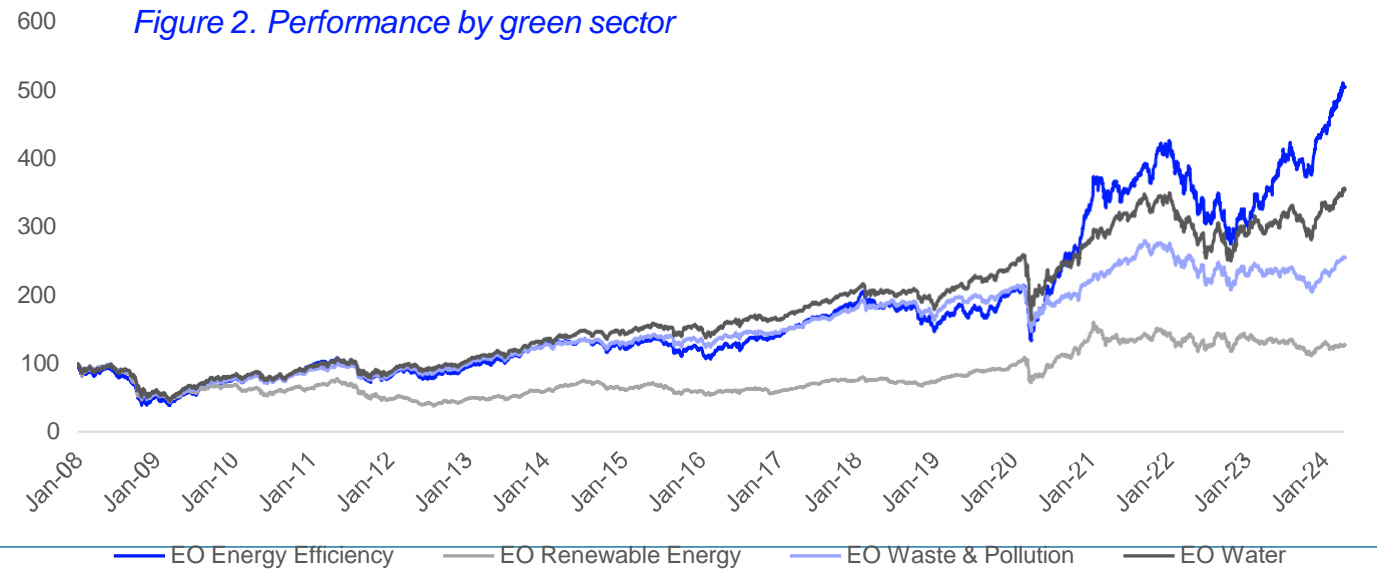
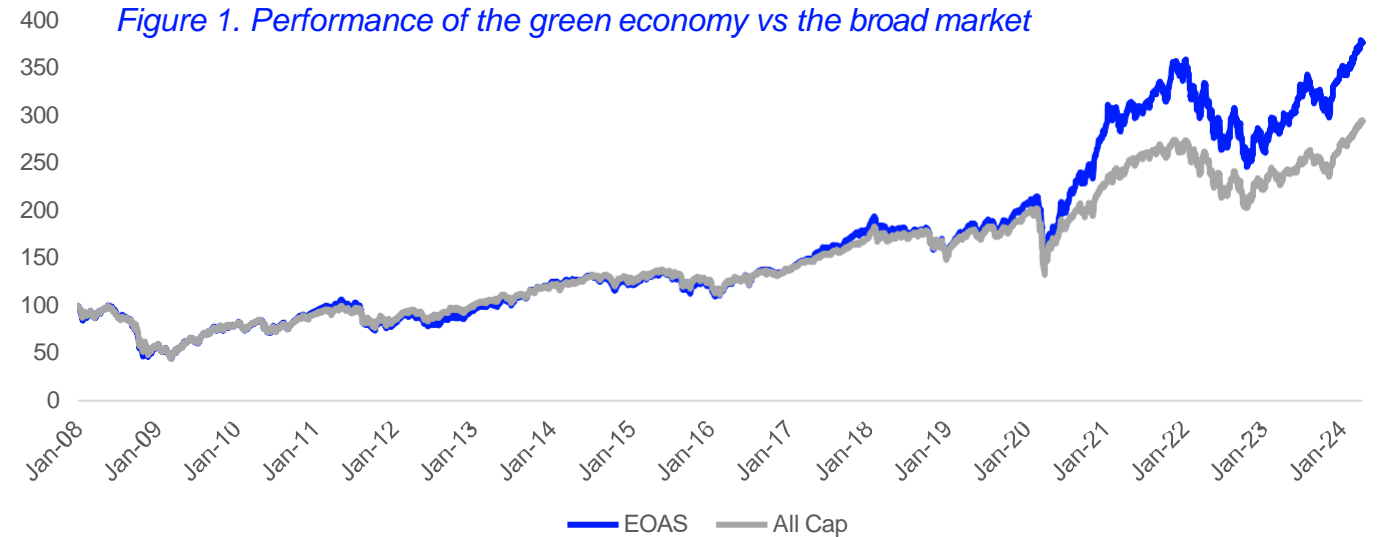
1.5°C pathway

Nationally Determined Contributions (NDCs) pathway

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Historical Performance of the Green Economy

- The FTSE Environmental Opportunities All Share index, composed of all public companies with 20% or more Green Revenues, **outperformed global equity markets by 82%** since its inception in 2008 (fig.1).
- The Green Economy has outperformed all Sectors except Technology over the last 10 years, buoyed by the performance of the **energy efficiency green sector** (fig.2).
- Geographically, **the US has been the best performing geography of the green economy.**

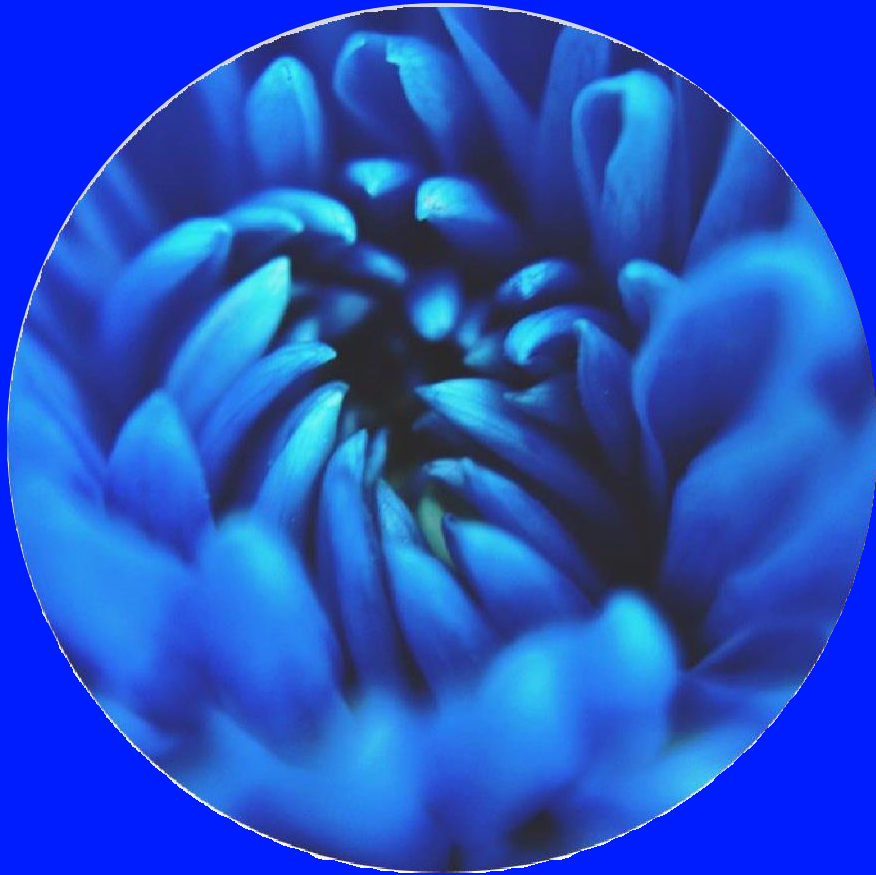


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Board of Administration Offsite

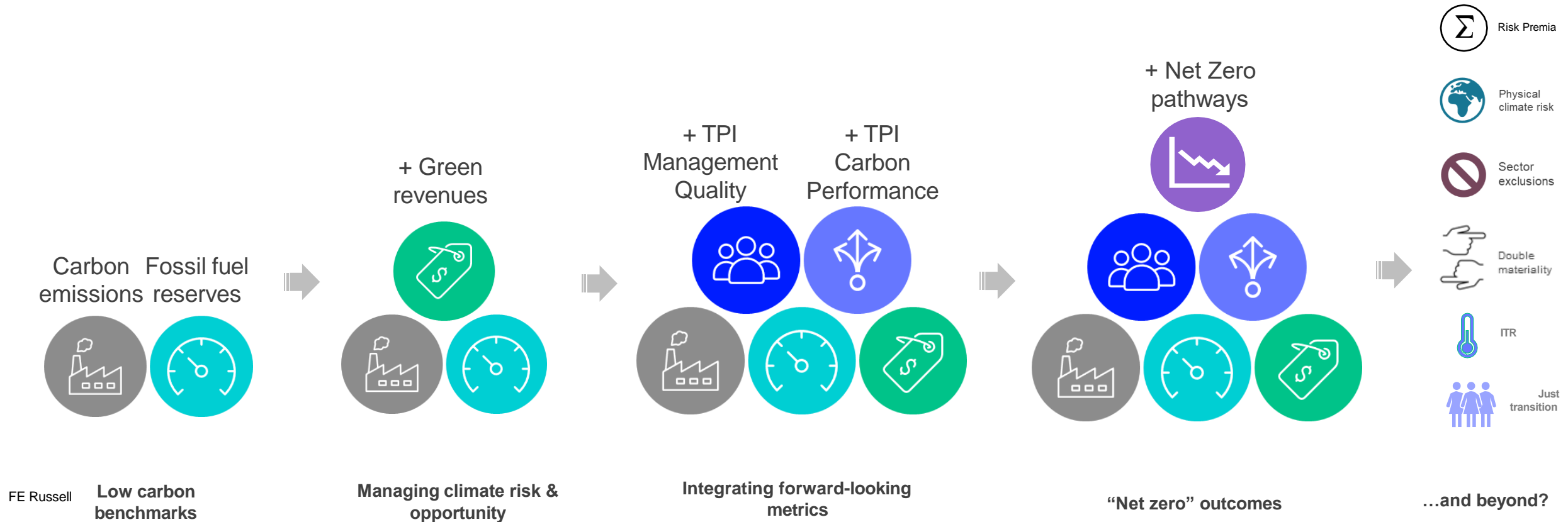
Source: FTSE Russell - data based on period from Jan 2008 - Jan-24. Past performance is no guarantee of future results. Please see the final page for important legal disclosures.



**Designing indexes that
incorporate the transition
to a low carbon economy**

The design & use of climate indices is constantly evolving

- Investor needs have grown in sophistication, from low carbon benchmarks to “net zero” outcomes



FE Russell

Low carbon
benchmarks

Managing climate risk &
opportunity

Integrating forward-looking
metrics

“Net zero” outcomes

...and beyond?

Transition Pathway Initiative (TPI)

Unique partnership with TPI ensures data and index design informed by leading asset owners

HIGHLY CREDIBLE, ASSET OWNER CREATED AND LED ORGANISATION

- Founded in 2015 by a global group of asset owners
- By 2024: 151 investor supporters globally, representing ~\$60tn trillion combined assets under management and advice

DATA DRIVEN & OPEN SOURCE

- TPI tool is publicly available
- Allows investors to benchmark corporate activities on climate
- Management of emissions & low-carbon transition risks/opportunities

INDEPENDENCE & ACADEMIC RIGOUR

- TPI tool hosted by the highly-respected Grantham Research Institute on Climate Change and the Environment (London School of Economics)

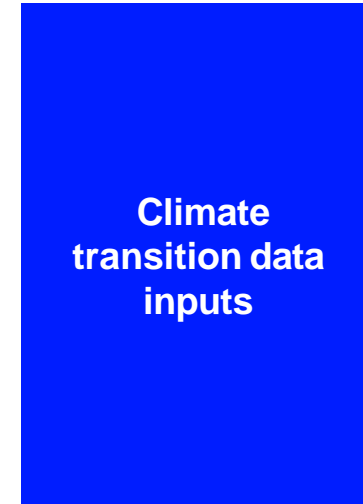
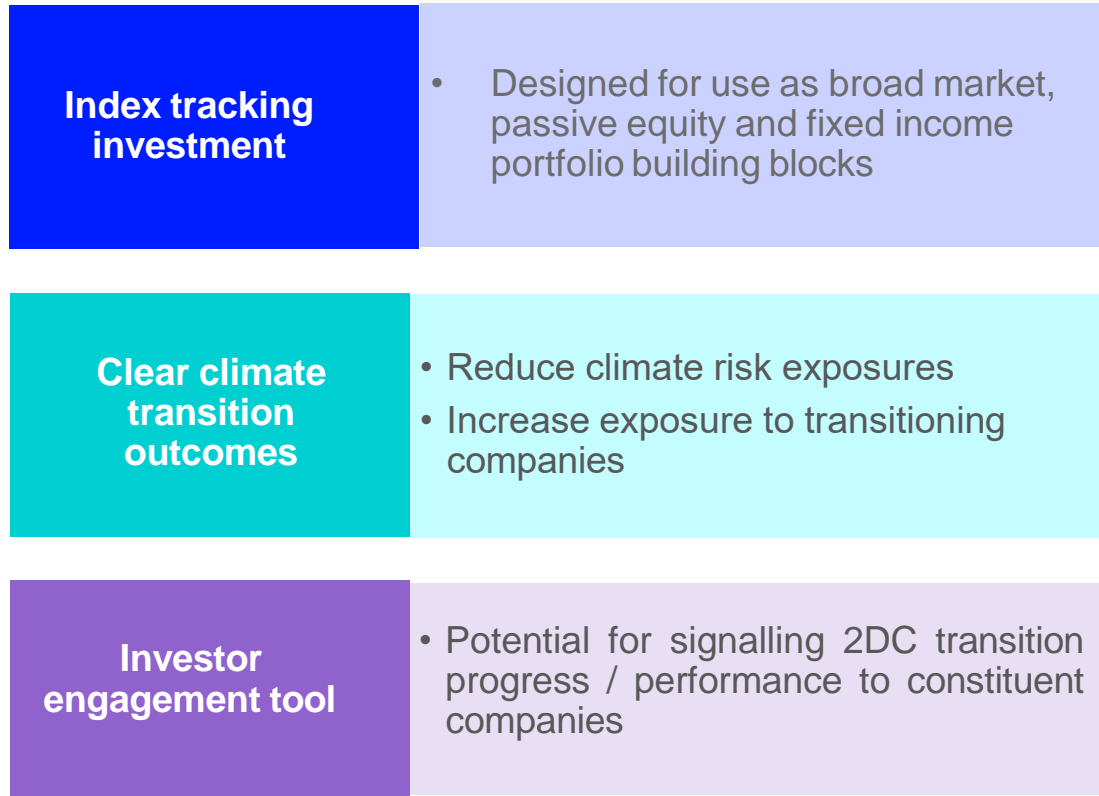
SUPPORTS KEY GLOBAL INITIATIVES

- Aligned to global disclosure requirements
- 700 investors with over US\$68 trillion in combined AUM use TPI data in the CA100+ initiative



FTSE TPI Climate Transition Index framework

- Customizable framework for integrating “climate transition” into indexes
- Unique partnership with TPI ensures data and index design informed by leading asset owners



Green Revenues



Fossil Fuel Reserves



Carbon Emissions



TPI Management Quality



TPI Carbon Performance








Risk constraints ensure investability and diversification by e.g. neutralize risk premia exposures, manage turnover, cap Industry & Geography active share



FTSE Russell’s tilting methodology: adjusts constituent weights based on climate data and investment risk considerations.

FTSE TPI Climate Transition Index Framework

Targeted metrics for incorporating transition readiness through tilts to stock weights

Backward-looking data	 Green revenues	Overweight companies engaged in the transition to a green economy
	 Fossil fuel reserves	Underweight companies with fossil fuel reserves
	 Carbon emissions	Over or underweight companies according to their GHG emissions
Forward-looking data	 TPI Management quality	Over or underweight companies according to their management quality (“climate governance”)
	 TPI Carbon performance	Over or underweight companies according to their carbon performance (“2DC/Below 2DC pathways”)

Climate-Aware Investing in Global Public Equities

Asset Owner Adoption



Tom DiNapoli @NYSComptroller · 31m

NYS Pension Fund is investing \$2 billion in a @FTSERussell index focused on reducing the risks of climate change and capitalizing on the opportunities arising from the transition to a low carbon economy.



Church of England joins passive push with climate index

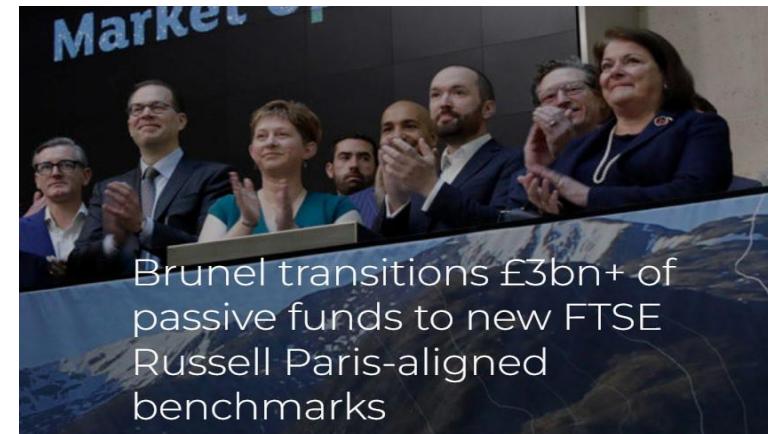
Pension board will invest £600m in project it has developed with FTSE Russell



Justin Welby, Archbishop of Canterbury, says there is a moral and financial imperative to address the climate emergency © Tolga Akmen/FT

FTSE Russell chosen by LGPS Central for multi-factor climate weighted index

- Move reflects growing demand for multi-factor and climate related considerations in indexing
- Climate change considerations are captured via carbon emissions, fossil fuel reserves and green revenues



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Thank you



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An LSEG Business

CalPERS FTSE Climate Transition Index (CTI)

- CalPERS collaborated with FTSE Russell on the customized **CalPERS FTSE Climate Transition Index (CTI)**.
- CTI is a **rules-based, scalable** alternative to capitalization-weighting, aiming to capture the equity risk premium in a climate- resilient manner.
- CTI provides significantly **higher exposure to climate solutions**, enabling the transition and substantially improving portfolio carbon footprint by **systematically focusing on carbon efficiency leaders within each industry**.
- CTI favors companies with projected emission intensity trajectories aligned with scenarios consistent with global warming below 2 degrees Celsius, especially in high-emitting sectors.
- The index **integrates both climate and traditional financial metrics** to systematically score constituents, ensuring climate resiliency without compromising expected performance, a crucial consideration for us as **fiduciaries**.
- CalPERS has made an **initial allocation of approximately \$5 billion** or 1% of the Total Fund into CTI. Staff will monitor the strategy to ensure consistency with the underlying thesis and performance expectations. The allocation to CTI will be revisited in the context of the Fund's 2025 ALM.