



THE PURSUIT OF OUTPERFORMANCE

MEGATRENDS

WEATHERING CLIMATE CHANGE

Opportunities and risks in an altered investment landscape



Taimur Hyat
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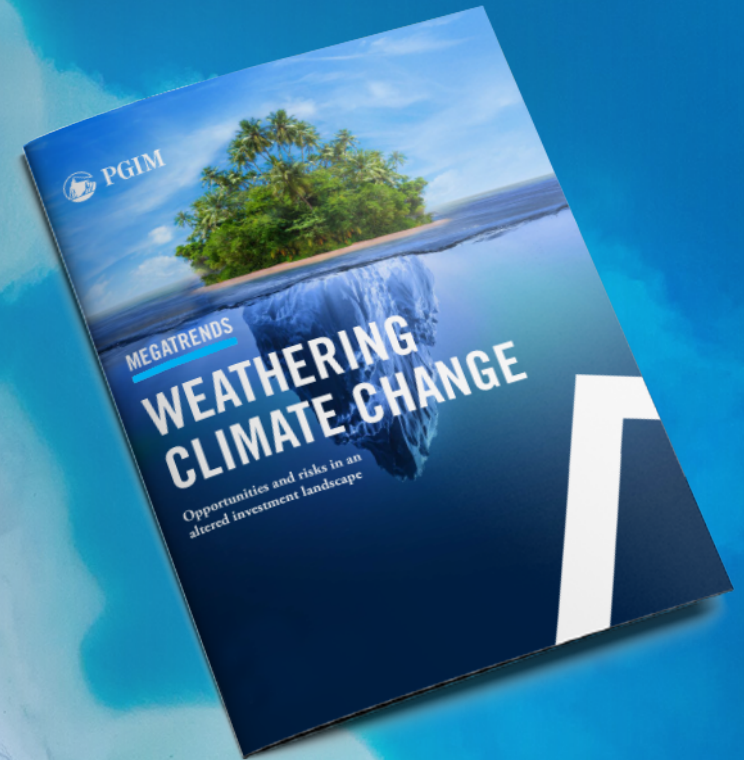
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Research Draws on Insights From:

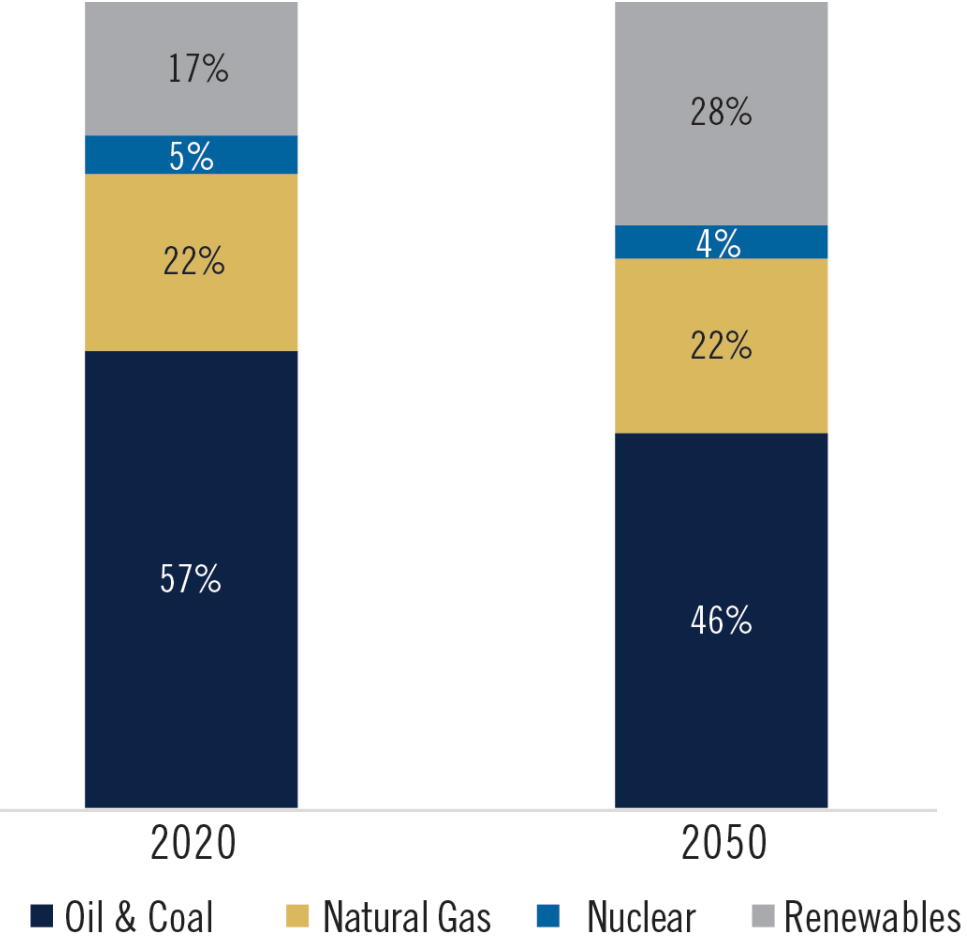
- 45 PGIM investment professionals
- 30+ leading academics, policymakers and scientists
- 100+ global institutional investors



Wide Divergence of Climate Risk Across EM Countries

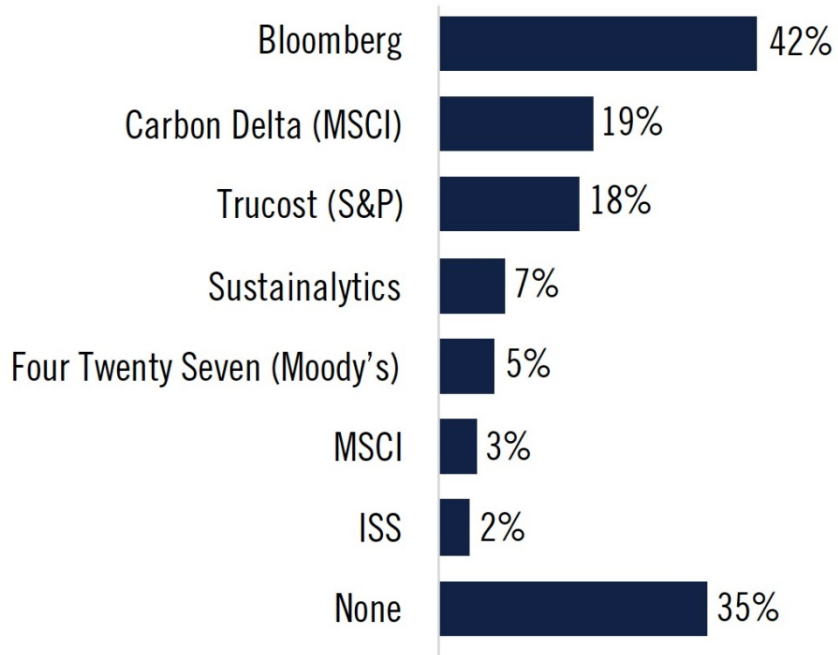
Climate Risk	MSCI Emerging Market Index		JP Morgan Global Bond Index - EM	
Low	Czech Republic	Chile	Czech Republic	Malaysia
	Poland	South Korea	Poland	Russia
High	South Africa	Indonesia	Turkey	South Africa
	Brazil	India	Mexico	Brazil

Share of Global Energy Consumption by Source

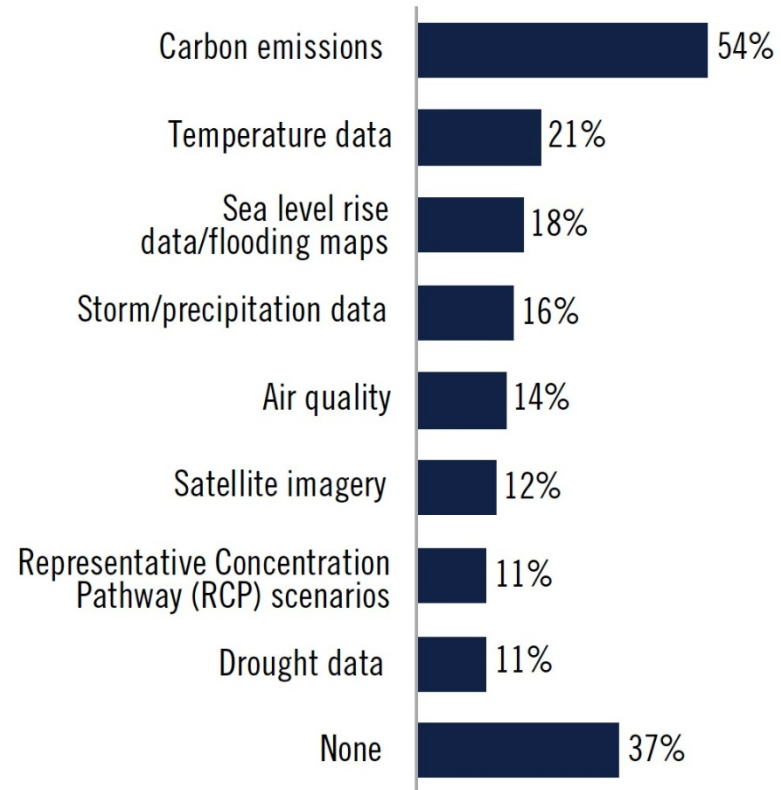


PGIM Proprietary Survey of Global CIOs

Investors use a range of vendors for climate-related data and analytics



Few investors go beyond carbon emissions when incorporating alternative data

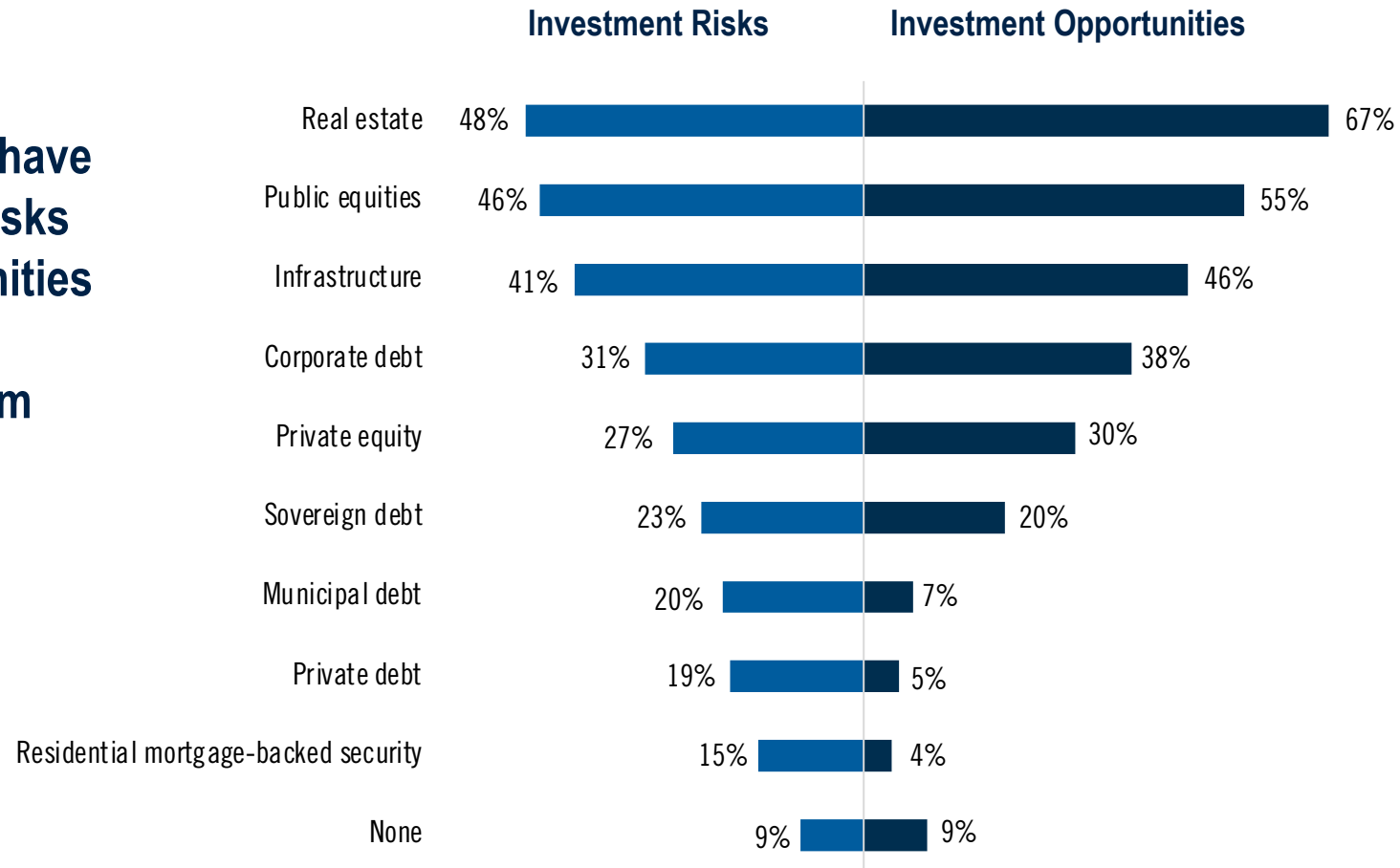


New Climate Analytics Inform Real Estate Investment

Site	State/Province	Primary Type	Average Risk	Earthquakes	Floods	Heat Stress	Hurricanes & Typhoons	Sea Level Rise	Water Stress
11 Filmore Street	NY	Office	36	●●●●● 83	●●●●○ 52	●●●●○ 41	●○○○○ 0	●○○○○ 0	●●●●● 84
7825 W Ash	NY	Healthcare	25	●○○○○ 0	●●○○○ 7	●●●●○ 45	●●○○○ 25	●○○○○ 0	●●●○○ 46
4th Cell Ave	NY	Retail	62	●○○○○ 0	●●○○○ 7	●●●○○ 39	●●●○○ 46	●●○○○ 40	●●●●○ 58
15 Valley Park	WA	Warehouse/Storage	35	●○○○○ 0	●●○○○ 5	●●●●● 66	●●●○○ 62	●○○○○ 0	●●●○○ 44
5th & Broadway	CA	Office	21	●●●●● 83	●●○○○ 7	●●●○○ 37	●○○○○ 0	●○○○○ 0	●●●●○ 61
2400 Park Ave	CA	Office	31	●●●●● 83	●●●●○ 75	●●●○○ 44	●○○○○ 0	●○○○○ 0	●●●○○ 35
440 Elmo Road	NY	Office	40	●●●●● 85	●●●●○ 61	●●●○○ 42	●○○○○ 0	●○○○○ 0	●●●●● 94
St. Allen	IL	Healthcare	25	●○○○○ 0	●●○○○ 7	●●●●○ 45	●●○○○ 25	●○○○○ 0	●●●○○ 46
La Vie on 5th	FL	Residential	46	●○○○○ 0	●●●●○ 46	●●●●○ 60	●●●○○ 64	●○○○○ 0	●●●○○ 44
Park Cir #2	WA	Warehouse/Storage	25	●○○○○ 0	●●○○○ 8	●●●●○ 51	●○○○○ 0	●○○○○ 0	●●●●○ 64

Climate Change Creates Risks and Opportunities

Global CIOs were asked which asset classes will have substantial investment risks and investment opportunities associated with climate change over the long-term



Fixed Income: Mispricing Creates Investment Opportunities

Sovereign Debt

- Adopt a framework that considers both climate vulnerability and readiness
- Opportunities for active investors to discern between winners and losers

US Municipal Bonds

- With most muni investors motivated by favorable US tax treatment, climate risk is largely overlooked
- Long-term active investors can find climate-resilient municipal debt without foregoing yield

Energy Infrastructure

- The long sunset for fossil fuels creates opportunities in midstream energy infrastructure

US P&C Insurance

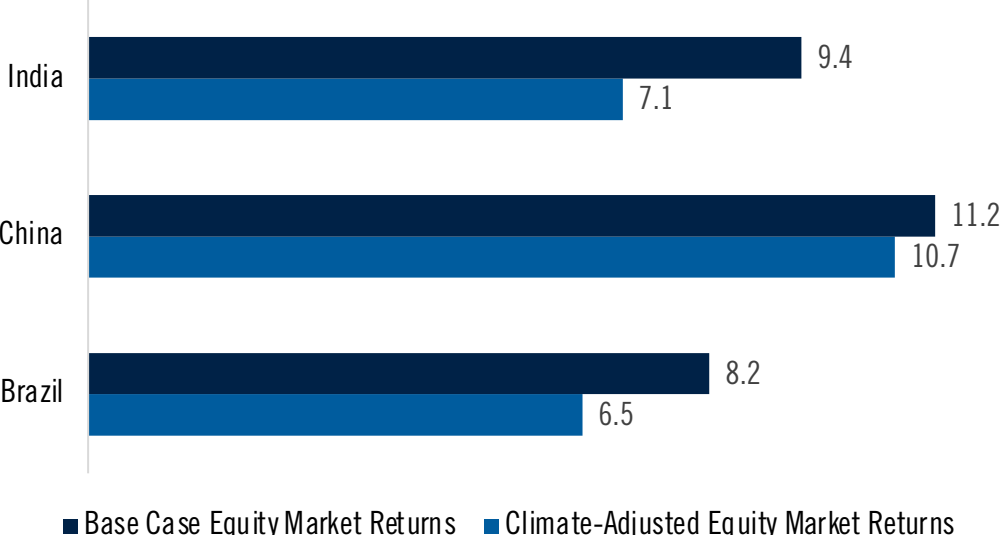
- New sources of capital and advances in underwriting have enabled top P&C insurers to better manage exposures
- Climate events are likely to drive US demand for P&C coverage

Structured Finance

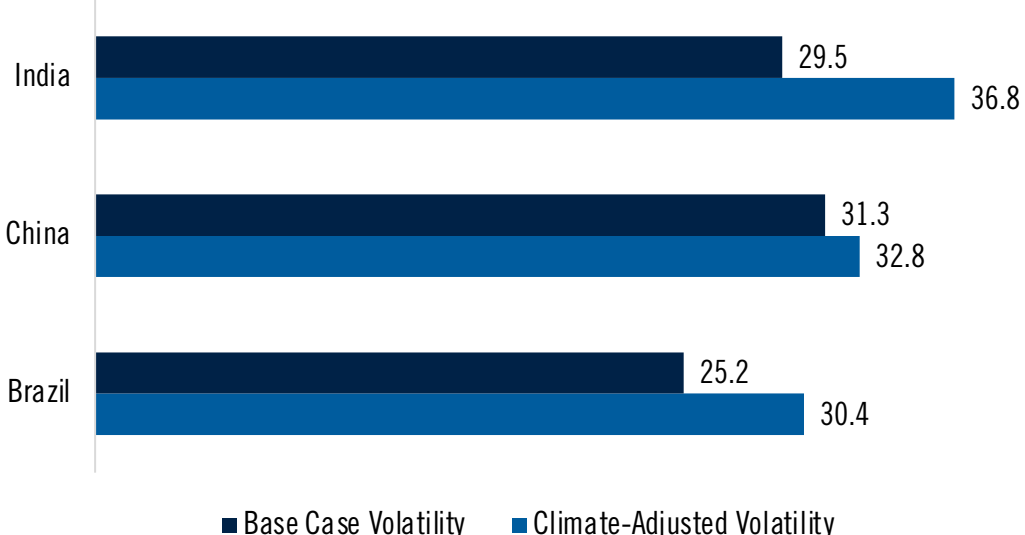
- Investors are structurally insulated from physical risks to underlying collateral in ABS
- In the agency MBS market, government sponsored entities absorb much of the climate risk around the underlying properties

Climate Impact on Select EM Equity Returns and Volatility

Expected Annual Average Equity Market Returns (%)



Expected Annual Average Volatility (%)



Source: QMA analysis
Note: Negative GDP growth impact from climate change also increases expected volatility in equity markets.





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THANK YOU!



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