



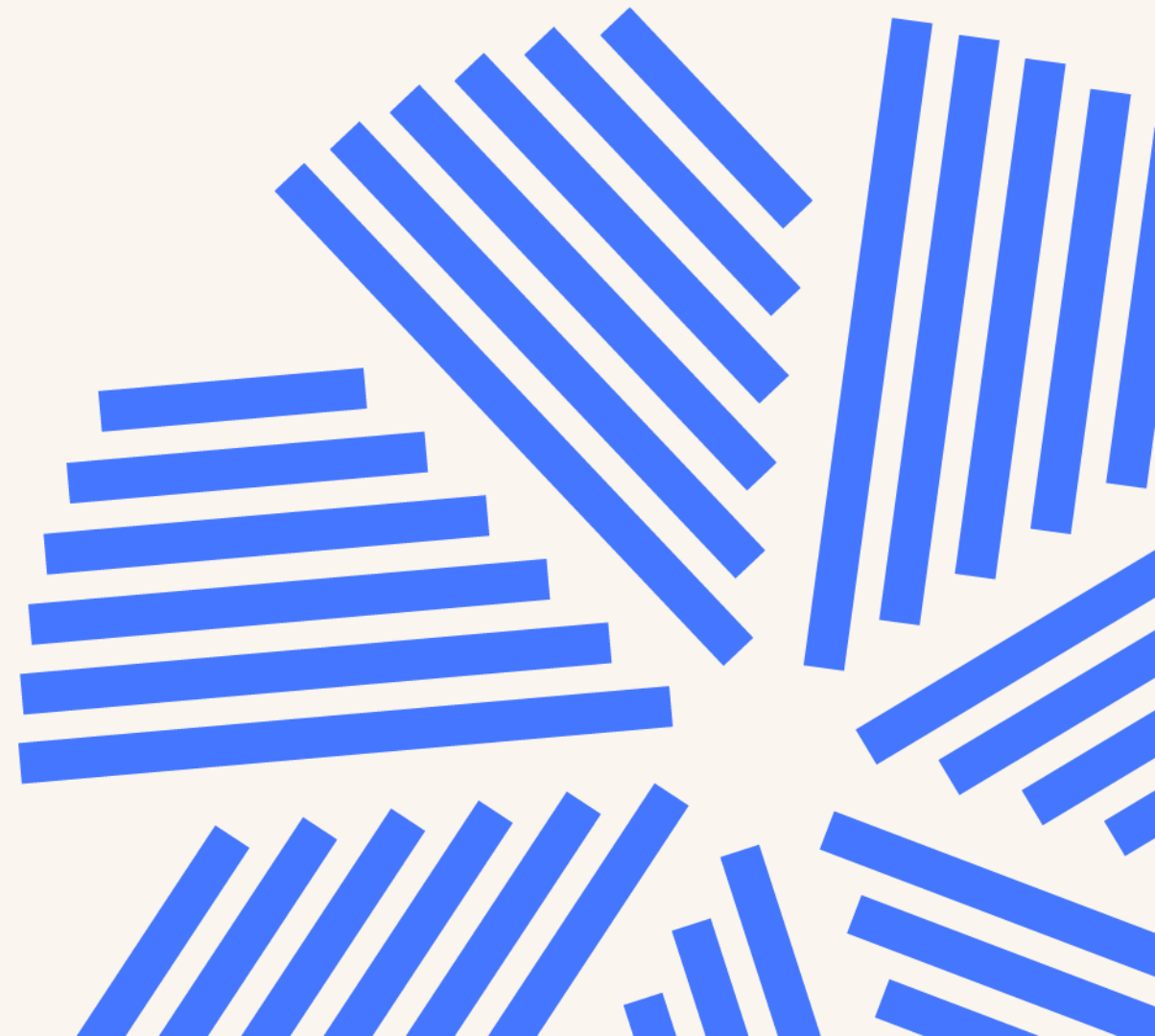
ASIA-PACIFIC RESEARCH EXCHANGE WEBINAR

2024 Sustainability & Climate Trends to Watch – The APAC View

Chitra Hepburn, Managing Director, Head of APAC ESG and Climate, Head of South & Southeast Asia, MSCI

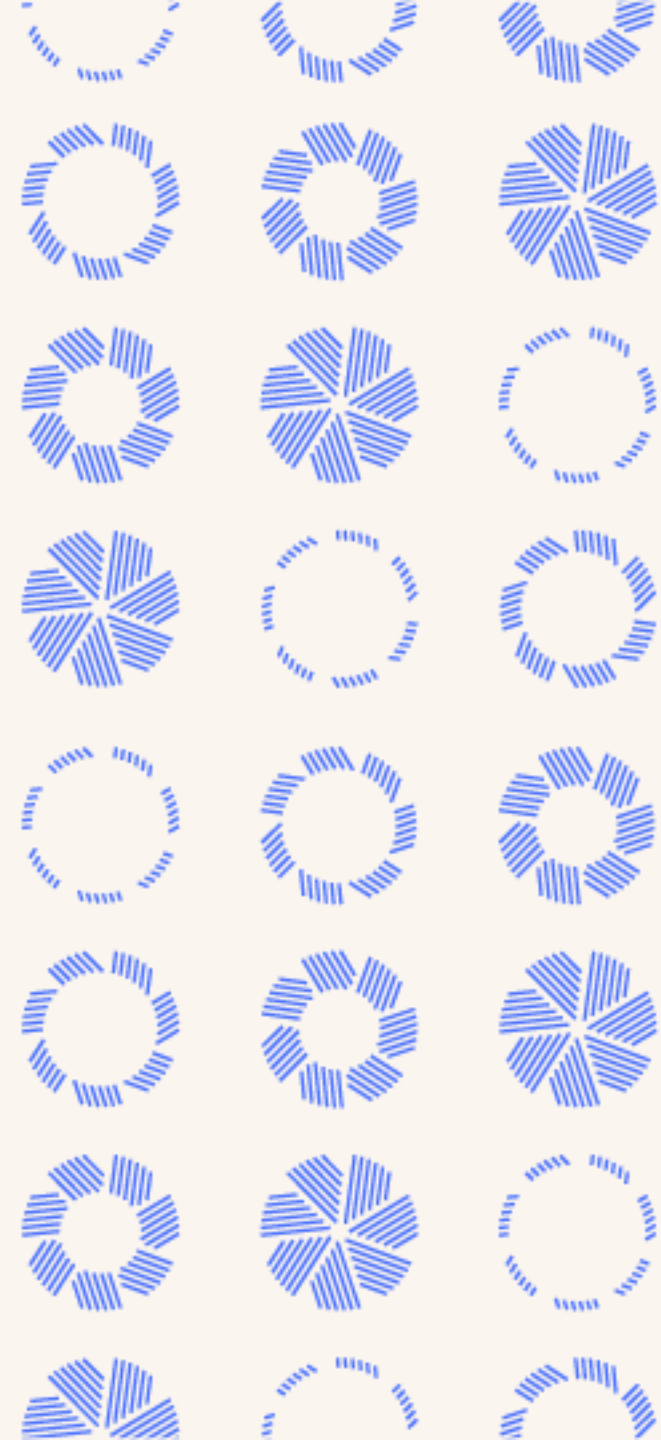
SK Kim, Vice President, ESG & Climate Research, MSCI

David von Eiff, PhD, Global Industry Standards, CFA Institute



Housekeeping

- Today's webinar is scheduled for 60 minutes including Q&A.
- All participants are muted throughout the webinar.
- We welcome comments via the Chat button and questions via the Q&A button on your screen.
- This webinar will be recorded and uploaded onto CFA Institute Asia-Pacific Research Exchange (ARX, www.arx.cfa) alongside the main presentation.



MODERATED DIALOGUE

Chitra Hepburn
Managing Director,
Head of APAC ESG and Climate,
Head of South & Southeast Asia,
MSCI

KEYNOTE PRESENTATION

SK Kim

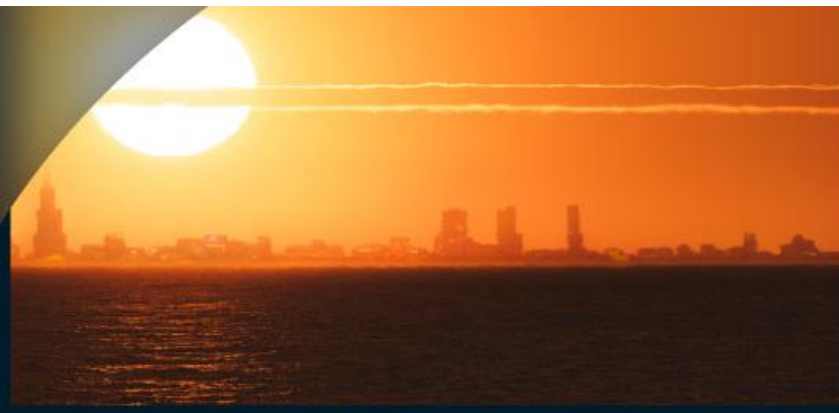
Vice President, ESG & Climate
Research
MSCI



SUSTAINABILITY & CLIMATE

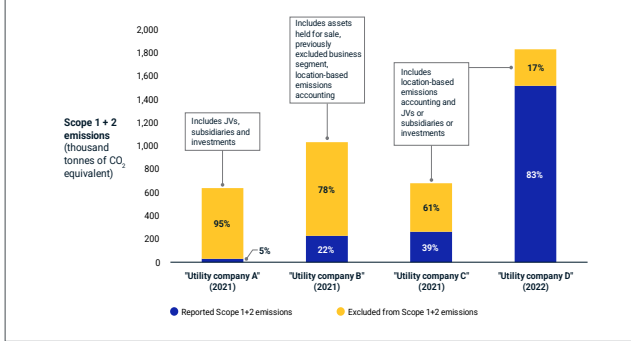
Trends to **2024** Watch

27.02.2024

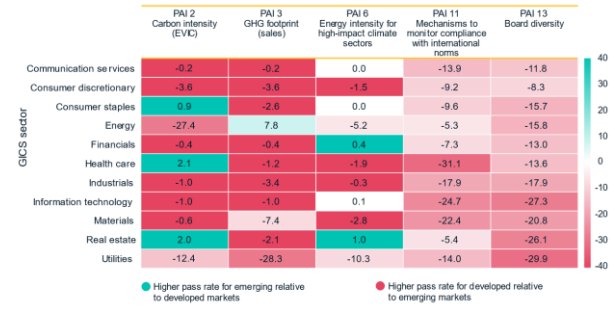


Spotlight Trends – APAC sustainability & climate trends

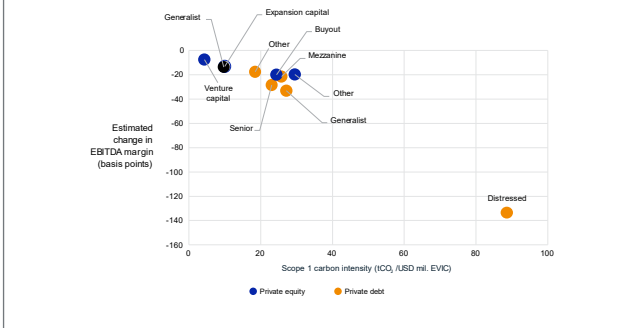
Regulators drive more corporate climate disclosures...



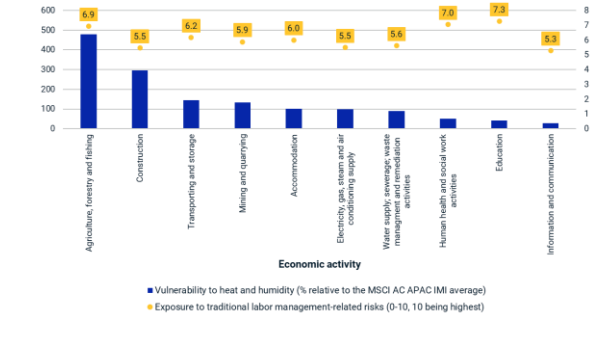
...but sometimes draw unintended consequences for emerging markets



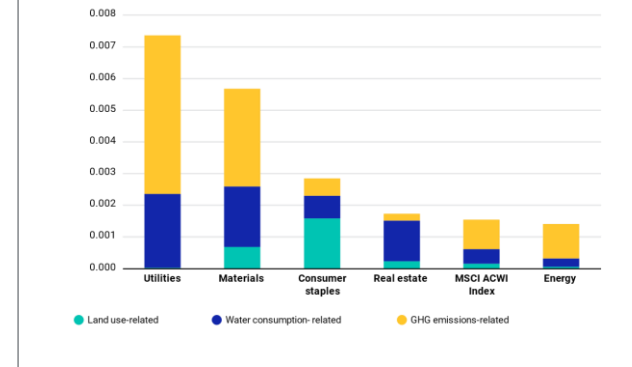
Private debt takes a seat at the climate transition table



Extreme weather hits home and work



Investing in nature

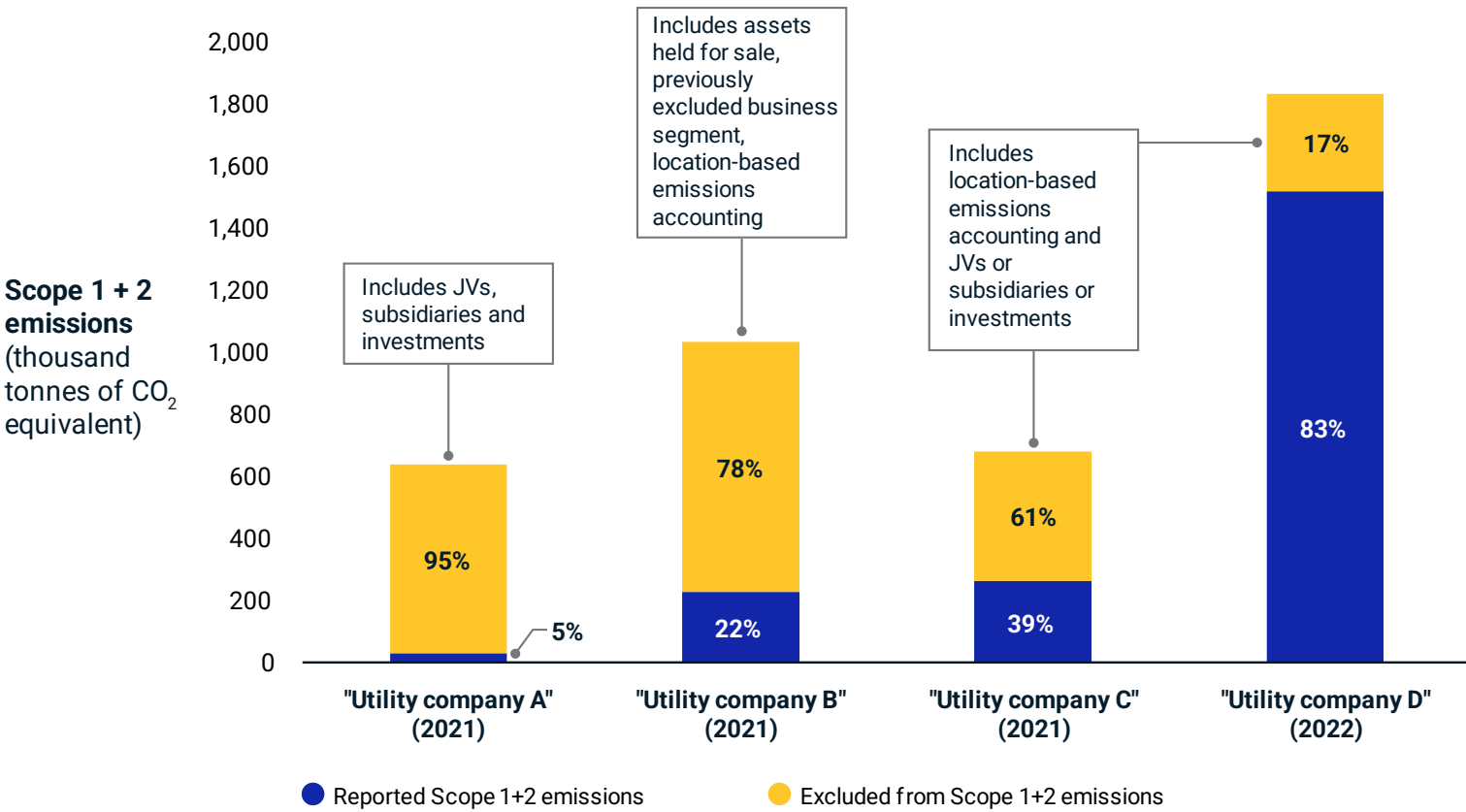




1-1. Regulation Drives More Corporate Climate Disclosure

The Rise of 'Orphaned Emissions?' Reading The Fine Print of Sustainability Reports

Reported vs. adjusted emissions for four publicly listed utility companies



Actual company names anonymized. Company A excluded JVs, subsidiaries and investments. Company B excluded assets held for sale and an entire business segment and switched to using market-based accounting for its overall emissions. Companies C and D both excluded JVs, subsidiaries and investments and switched to using market-based accounting for their overall emissions. Data as of September 2023. Source: MSCI ESG Research, public company disclosures



EM ETS await wider climate reporting

Companies from MSCI ACWI IMI	Markets under ETS	Emissions Sectors regulated under the ETS	Average carbon price in 2022 (USD)	Number of companies that have reported that they were regulated by the ETS*	% of companies that reported emissions breakdown, if regulated by the ETS, from the relevant markets	
Companies that report through CDP to be regulated by ETS that in force (N=727)	Korea	Waste, Domestic Aviation, Transport, Buildings, Industry, Power	17	61	100%	
	New Zealand	Forestry, Waste, Domestic Aviation, Transport, Buildings, Industry, Power	50	3	100%	
	Mainland China	Power	8	7	100%	
	Japan (Tokyo and Saitama)	Buildings, Industry	3	258	98%	
	Canada (Nova Scotia and Québec)	Transport, Buildings, Industry, Power	28	56	89%	
	EU	Transport, Buildings, Industry, Power	84	167	86%	
	USA (California and RGGI)	Power	13	146	80%	
	Switzerland	Domestic Aviation, Industry, Power	82	24	67%	
	Other ETS (Kazakhstan, Mexico, Montenegro)	Transport, Buildings, Industry, Power	n.a.	5	80%	
Companies that did not report to be regulated by ETS (n=8,500)	Companies that domiciled in markets where ETS is under development	Turkey	Pilot ETS in 2024	n.a.	73	29%
		Indonesia	First phase in 2023, cover power	n.a.	76	4%
		Colombia	Fully implement by 2030	n.a.	3	0%
	Companies that domiciled in markets where ETS is under consideration	Brazil	n.a.	n.a.	136	46%
		Chile	n.a.	n.a.	26	19%
		Taiwan, China	n.a.	n.a.	418	17%
		India	n.a.	n.a.	562	10%
		Malaysia	n.a.	n.a.	97	7%
		Thailand	n.a.	n.a.	148	6%
	Others (markets with no official announcement on ETS)	n.a.	n.a.	n.a.	6,961	14%

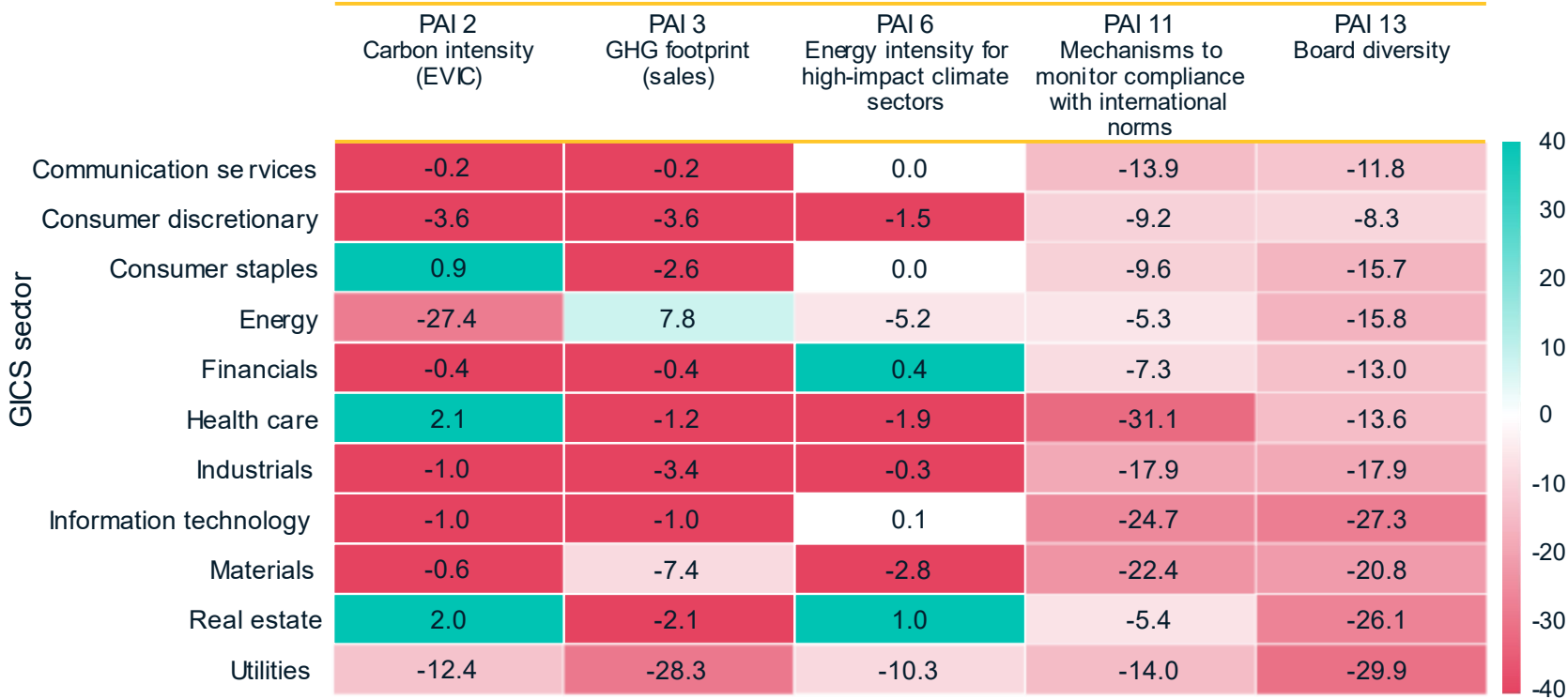
Companies in the coverage sector may only fall under ETS regulation if they meet certain criteria such as operation size, therefore the disclosure rate was calculated based on the total number of companies reported to be regulated by ETS. For companies that do not fall under existing ETS or do not have such disclosure under CDP C11.1, we use total number of companies from domiciled markets for disclosure rates in the corresponding cells (grey shading). Russia, Ukraine, Vietnam, Nigeria and Pakistan also have ETS under development or consideration. These are not included in the table as there were no constituents in the MSCI ACWI IMI universe domiciled in these markets. Data as of November 2023. Source: International Carbon Action Partnership, MSCI ESG Research



1-2. The SFDR's Unintended Consequences for Emerging Markets

The SFDR's Unintended Consequences for Emerging Markets

Emerging-market companies may find it harder to meet criteria for select PAIs than their developed-market peers



● Higher pass rate for emerging relative to developed markets

● Higher pass rate for developed relative to emerging markets

Analysis based on constituents of the MSCI ACWI Index as of June 2023, which included 1,205 emerging-market issuers and 1,490 developed-market issuers. We compared the percentage of emerging-market issuers in each sector that pass the PAI criteria to the pass rate for their developed-market counterparts. Thresholds are set at the level of the applicable universe (the worst 10% of performers) and at the sector level (the worst 5% of performers get screened out) for PAIs 2, 3 and 6. PAI 11 is a pass or fail (building on reported policy data as per the forthcoming review of MSCI SFDR PAI 11); PAI 13, board diversity, requires a minimum of one woman. A negative figure means the pass rate was higher for developed-market companies while a positive figure means the pass rate was higher for emerging-market companies. Sectors were defined by the Global Industry Classification Standard (GICS®). GICS is the global industry classification standard jointly developed by MSCI and S&P Global Market Intelligence. Source: MSCI ESG Research



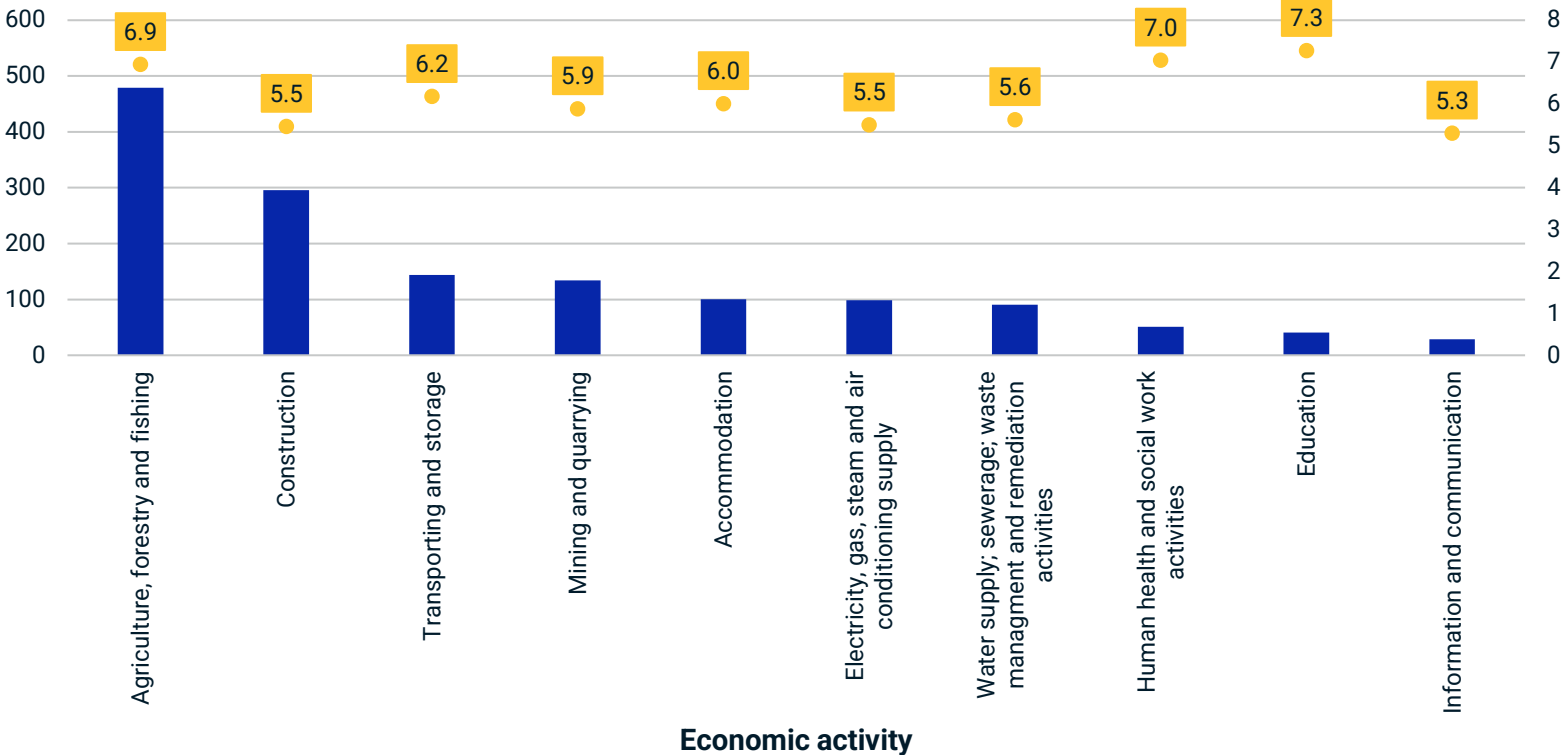


2. Extreme Weather Hits Home and Work

Workers Feel The Heat

Updated

Labor-management risk exposure for the 10 most heat-vulnerable economic activities



Analysis covers constituents of the MSCI AC APAC IMI, categorized using NACE (European classification of economic activities) section codes, with the 10 most heat-vulnerable economic activities included in the chart. Our assessment of the vulnerability of each activity is based on the productivity loss at a WBGT of 22°C, looking at physical activity and prevalence of air conditioning – a higher value implies a higher vulnerability. Our assessment of exposure to traditional labor-management-related risks includes elements such as revenue per employee, workforce size, geographical location and a history of unrest, with a higher score implying a higher exposure to productivity-related risks. Data as of January 2024. Source: MSCI ESG Research LLC.

- Vulnerability to heat and humidity (% relative to the MSCI AC APAC IMI average)
- Exposure to traditional labor management-related risks (0-10, 10 being highest)

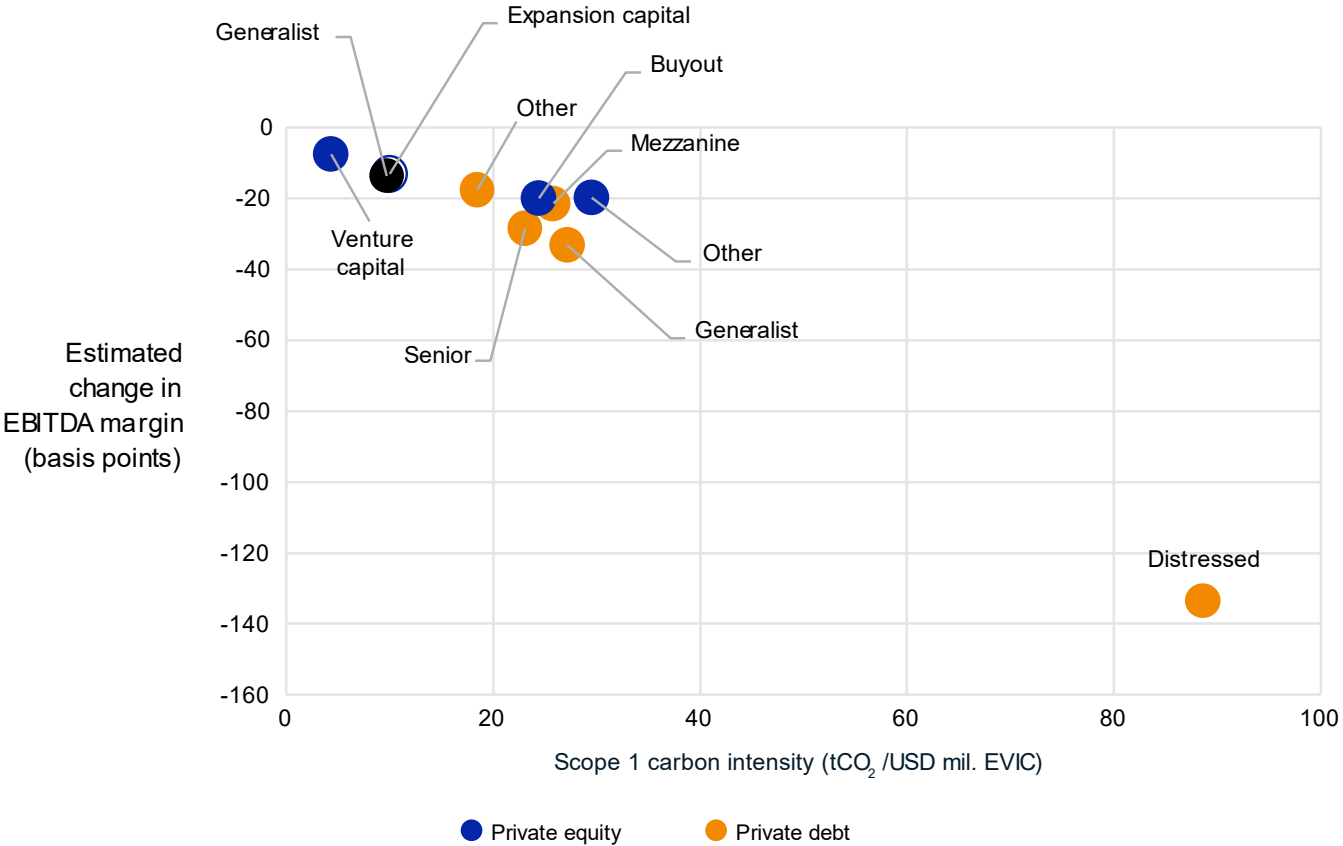




3. Private Debt Takes a Seat at The Climate-transition Table

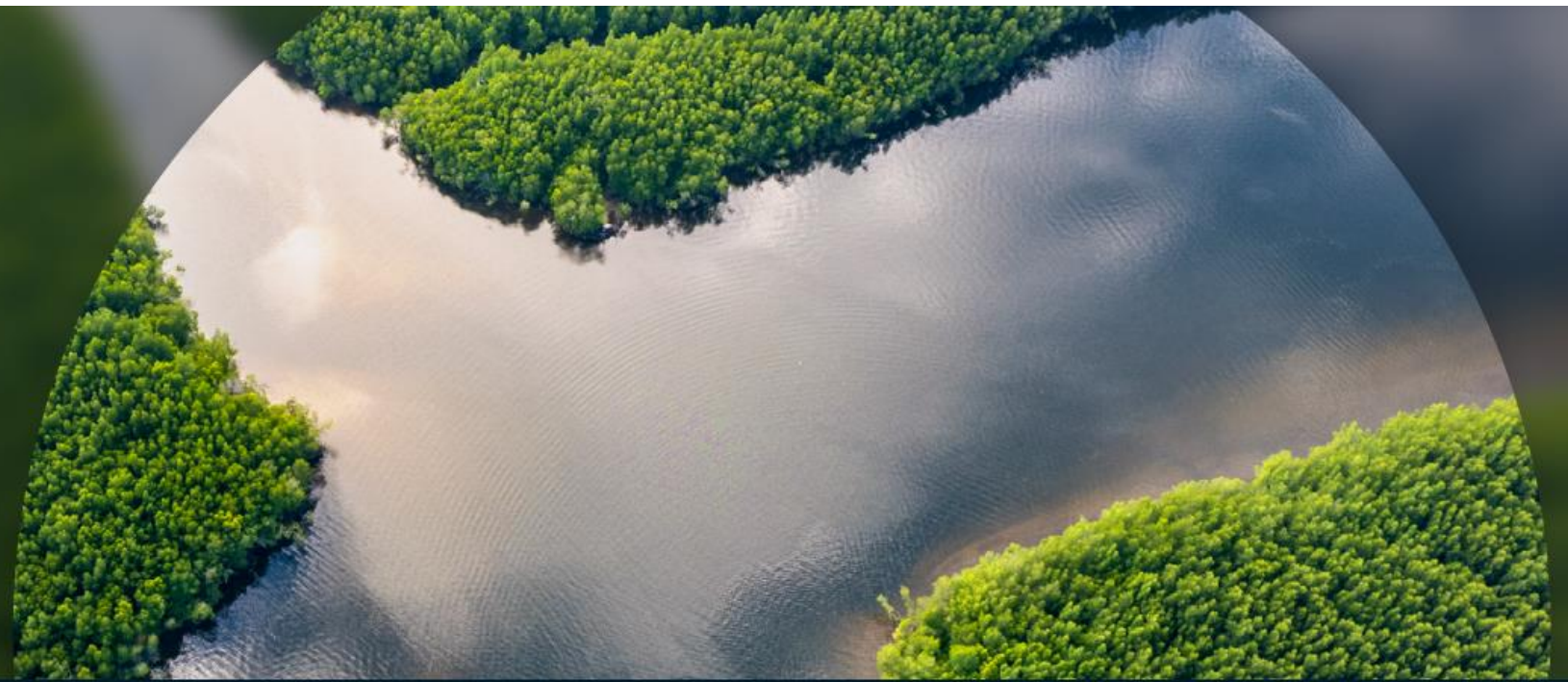
Private Debt Takes a Seat at The Climate-transition Table

Carbon intensity vs. estimated change in EBITDA margin when carbon price moves to USD75/tCO₂e



Carbon-intensity estimates are calculated only for companies within the MSCI Private Capital Solutions data universe. Therefore, properties, natural-resource investments and infrastructure assets generally do not have available estimates yet. The aggregate investment valuation is almost USD 4 trillion, corresponding to ~90% of the Burgiss Manager Universe, in portfolio companies with carbon-intensity estimates: ~96% in private equity and ~57% in private debt. The carbon prices are based on the World Bank's Carbon Pricing Dashboard. Data as of June 2023. Source: MSCI ESG Research and MSCI Private Capital Solutions (formerly Burgiss)

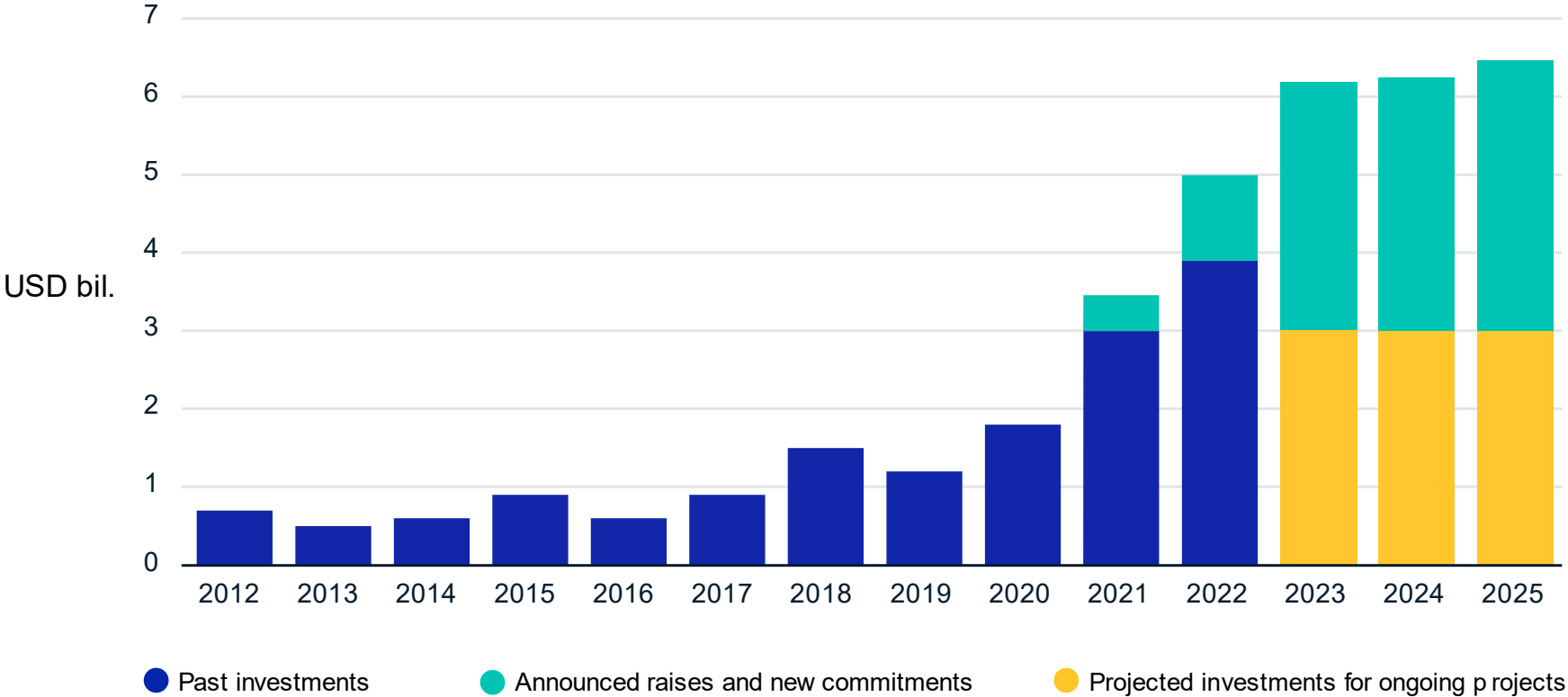




4. Investing in Nature

Investments in Nature Via The Voluntary Carbon Market

Nature is becoming a much more investable prospect

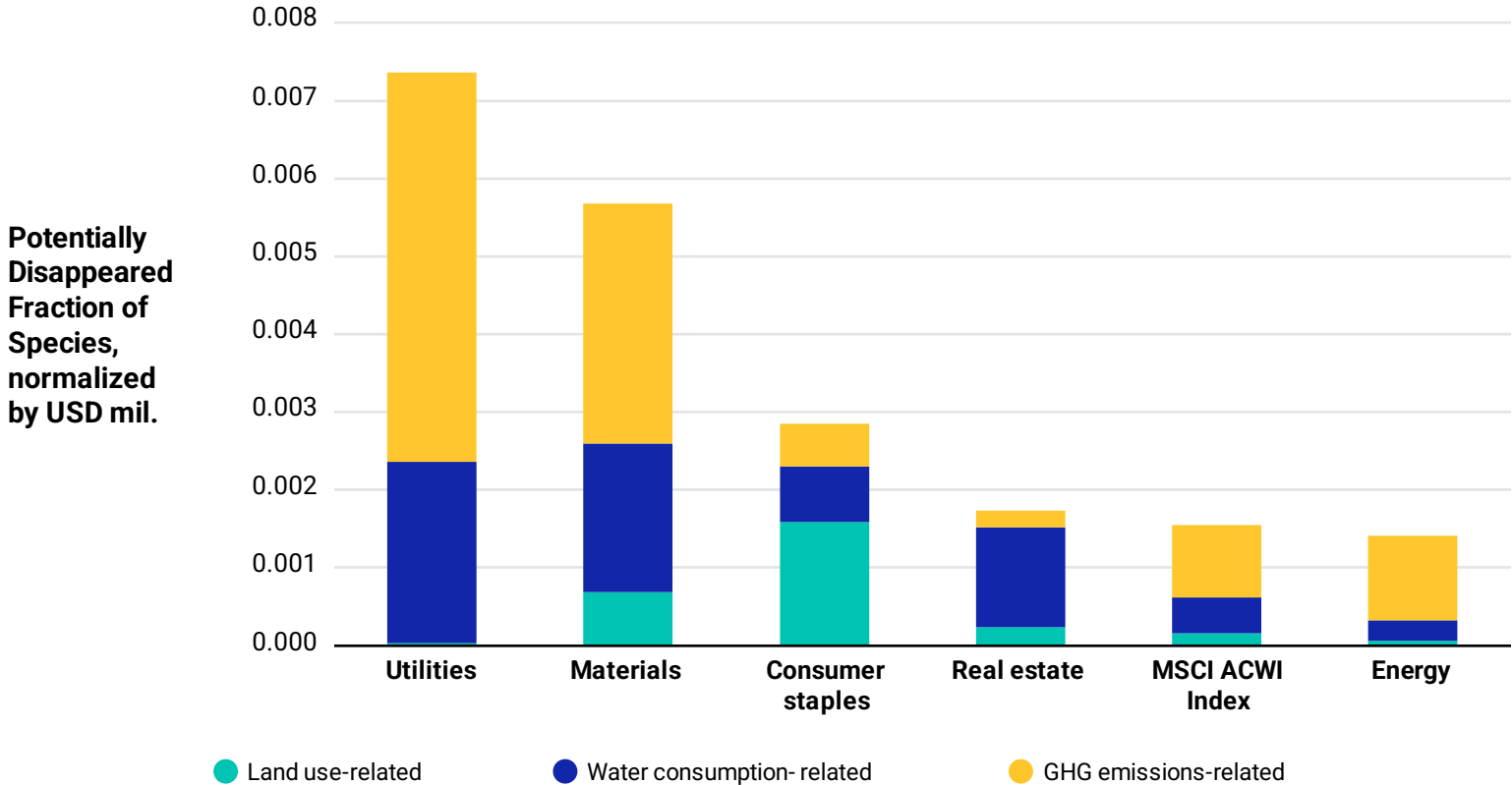


Data has been obtained from three main sources: (1) a survey of market participants conducted during April and May 2023, (2) analysis of more than 400 public announcements of capital raises for low-carbon funds and (3) modeled investment for over 7,000 projects, both registered and in the development pipeline. Data as of June 30, 2023. Source: MSCI Carbon Markets (formerly Trove Research)



Investing in Nature

Contribution to global species loss differs substantially between sectors



The chart shows five sectors with the highest potential contribution to global species extinction, with the average for all constituents of the MSCI ACWI Index for reference. We have calculated the PDF, based on company-specific land use, water consumption and GHG emissions. For this purpose, we have created estimation models to fill data gaps to create an emissions inventory and focused on the direct operations of a company only. We have translated these location-specific pressures into the “midpoint” impacts such as habitat change, climate change, acidification or ecotoxicity according to the scientific models developed by LC-IMPACT. We have used the MSCI Asset Location Database to identify location-specific company activities. We have aggregated these midpoints into endpoint impacts on terrestrial, freshwater or marine biodiversity. The resulting PDF metric is a fraction and therefore “unitless.” We have calculated the average PDF per sector and normalized it by revenues (in USD millions). Sectors refer to GICS® sectors. GICS is the global industry classification standard jointly developed by MSCI and S&P Global Market Intelligence. Data refers to all constituents of the MSCI ACWI Index as of Nov. 2, 2023. Source: MSCI ESG Research

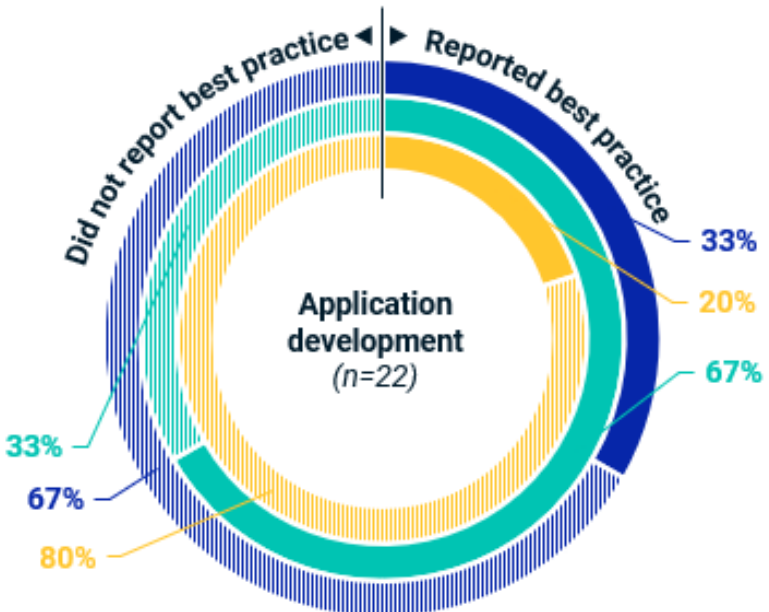
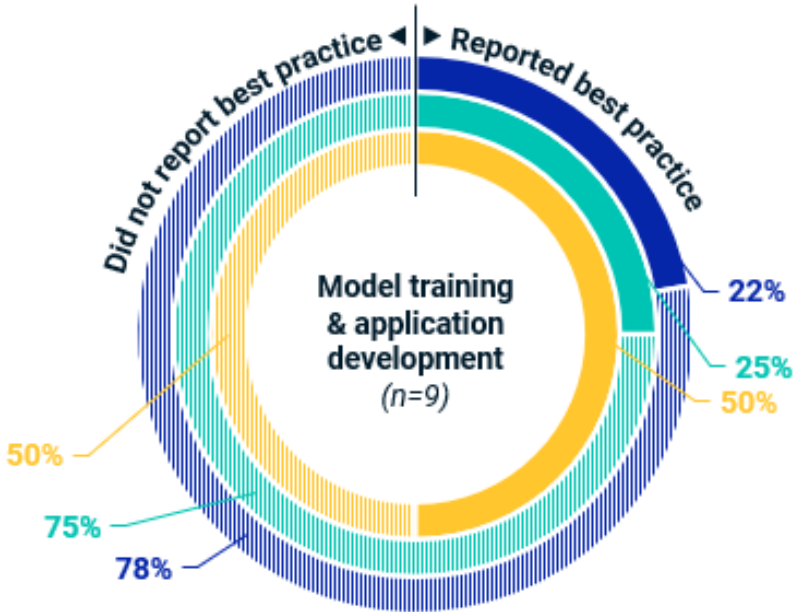




5. Managing AI

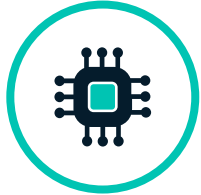
Managing AI: The Basics Still Matter

APAC companies across the AI value chain may need better guardrails and privacy provisions



- Privacy rights for users (access, modify, delete)
- Users opt-in, or collected data has no secondary purpose
- Privacy-by-design integrated into product development

Universe of analysis: 31 companies with three or more patents in areas related to “generative AI” (Google Patent search terms: generative AI, large language model, deep learning and neural networks) that were constituents of the MSCI AC APAC Index, as of Sept. 25, 2023. Companies were then grouped into two camps: 1) those involved in both AI foundation-model training and development of applications, such as companies in semiconductors and semiconductor equipment, interactive media and services and software and services; and 2) those mainly engaged in developing applications leveraging AI technologies, such as health-care and consumer-goods companies. Source: MSCI ESG Research



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