

Understanding Capital Scarcity in the Climate Finance Ecosystem

2026 update

September 2026



Acknowledgements

This report continues a body of research originated by Featherlight Capital Ltd, which commissioned the initial 2024 edition to address the lack of data on private capital flows into climate. Featherlight is a GP anchoring platform that provides anchor capital and hands-on operational support to help emerging climate-specialist managers launch and scale. CREO thanks Rowan Finnegan, Patrick Lynch, Eoin Ó Hógáin and Tom Rotherham-Winqvist of [Featherlight](#) for their contributions to the research methodology. The current edition was carried out independently by CREO, and all opinions, analysis, and conclusions are solely CREO's own.



Data sources & analysis

- Any analysis completed is as good as the data on which it is based. Every effort has been made to ensure that the best available data was used in the completion of this report and, where possible, multiple data sources were consulted and cross-referenced to increase confidence in the analysis. Data on private companies and funds is notoriously difficult to source, often incomplete, and sometimes unreliable. The CREO team has invested significant time to secure, review and validate data from the best sources available but it is important to acknowledge that the data is unlikely to be perfect, and the results of analyses should be viewed as directional and used to inform rather than a source of truth. Below are the primary sources of data used for the analysis:
- The macro analysis of climate finance flows included in the **Global Climate Finance Challenge** is based primarily on research and data provided by the Climate Policy Initiative (CPI) that has been comprehensively tracking global climate finance since 2011. CPI consolidates data from a wide range of primary and secondary sources and while the landscape is the most comprehensive available, it faces limitations of data availability, uniformity and granularity as outlined in CPI's methodological documentation. The 2026 release of the CPI dataset extends through 2024, with preliminary total finance estimate only available for 2025. Supplementary insights on finance flows were drawn from Clean Investment Monitor, and on emissions from the Global Carbon Budget, EDGAR, Our World in Data, Climate Trace and the IPCC; mitigation finance requirements were compared across CPI, McKinsey, Bloomberg NEF, and IRENA. Additional contextual insights were sourced via Climate Action Tracker and broader press search
- The analysis on **financing needs across sectors** draws on a triangulation of top-down third-party sources, with a foundation in the IPCC's 6th Assessment Report for total mitigation requirements and baseline cost competitiveness across technologies, updated leveraging recent cost data from IEA, IRENA and Lazard. Historic financing and future needs by sector are drawn from CPI except for Industry and Carbon Management sectors, which leverage triangulation of IEA, BloombergNEF and McKinsey Global Institute to cover gaps in CPI dataset. Analysis of technological maturity is based on IEA data. Given the multiple sources and lack of harmonized methodologies, the data and analysis should only be considered indicative of the size and pattern of investment gaps
- The **funds analysis** draws on a deduplicated dataset of 6,230 funds with 2010-2026 vintages, combining PitchBook (5,482) and the CREO Data Platform (748), including relevant Preqin funds and funds sourced through CREO dealflow. A PitchBook fund was treated as climate if it met any of four criteria: a CleanTech, Climate Tech or AgTech vertical, a Biodiversity & Ecosystems or Climate impact category, a Renewable Energy real asset preference, a Seeks ESG Investments stated preference, or a climate-related keyword in the fund name. Because these are fund-level flags, not every investment made by an identified fund is necessarily climate focused
- **Company and deal analysis** leveraged a combined dataset of 28,277 deals from PitchBook (26,524) and the CREO Data Platform (1,753) with 2014-2026 vintage. Climate deals in PitchBook were identified via the Clean Tech, Ag Tech, and Climate Tech verticals, then manually verified against company activities. For CREO data, only deals that have complete key variables and have gone through an internal quality check are used. Data from CREO were deduplicated against PitchBook by looking at company name and year of the deal. Companies from the CREO Data Platform also went through a similar manual check as PitchBook to be categorized as climate

Executive summary

Climate finance continues to grow, albeit at a slower rate of ~5% in 2025 versus a peak of 30% per annum in 2021. Mitigation is beginning to have an impact, and emissions growth has decoupled from GDP growth, but global financing needs to scale 3-4x by 2030 to limit climate impact below 2°C.

Existing technologies can more than deliver on required abatement through 2050, but a climate financing gap persists across all sectors. The Energy, Transport and Built Environment sectors still attract ~95% of climate capital but cost competitive technologies exist more broadly and 85 technologies have progressed to market readiness since 2020. According to estimates, mobilizing private capital into scale-ready solutions could unlock an opportunity of \$9-12trn new revenue annually by 2030.

Climate fundraising and deal flow contracted between 2024 and 2025. Emerging manager share of fundraising recovered to ~43%, slightly above historical levels. Mega-funds (>\$1bn) continue to attract almost two-thirds of capital, leaving space for smaller and mid-sized funds to effectively serve those sectors and opportunities requiring smaller checks. Debt's share in deal investment has increased four-fold over the past 5-years, but private equity remains under-invested. Climate fund returns lag the market by 2pp, with VC and Debt returns dragging down market-average performance in other asset classes. Valuation multiples for climate deals larger than \$100m are broadly in line with the market, but smaller deals remain at a premium. Relatively high levels of dry powder in climate funds presents both an opportunity and a challenge to deploy more capital.

Five imperatives for investors to close the climate financing gap:

1. Get comfortable operating under geopolitical risk.
2. Prompt private equity to get off the sidelines.
3. Back mid-sized funds to play a bigger role.
4. Build risk transfer infrastructure to unlock more capital.
5. Continue disciplined investment, particularly in early stages.

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- 3 Recent trends in climate private capital
- 4 Climate investment imperatives

1

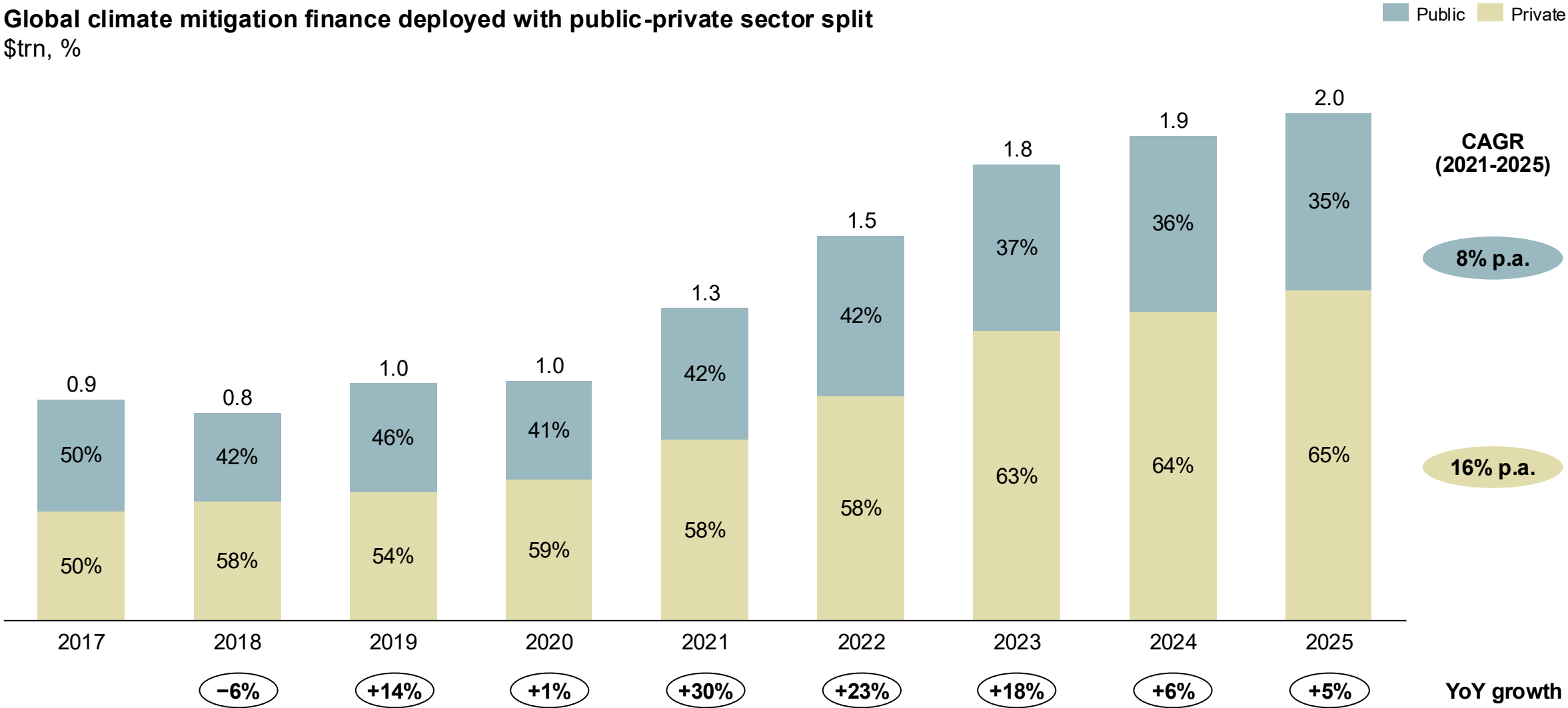
Global climate finance landscape

Climate finance continues to grow, albeit at a slower rate of ~5% in 2025 versus a peak of 30% per annum in 2021. Mitigation is beginning to have an impact, and emissions growth has decoupled from GDP growth, but global financing needs to scale 3-4x by 2030 to limit climate impact below 2°C.

- **Climate finance grew at a slower rate** of ~5% in 2025 versus ~6% in 2024 and ~18% in 2023; public sector funding has grown at a CAGR of ~10% since 2021 and the ~20% CAGR of private capital over the same period has fueled the ~16% CAGR for climate finance
- **Mitigation has decoupled emissions from GDP growth**, and emissions in 2026 (Jan to Jun) are comparable to the same period in 2025.
- However, historical emissions are in line with a >2°C warming pathway; **achieving net zero requires a 3-4x increase in financing.**

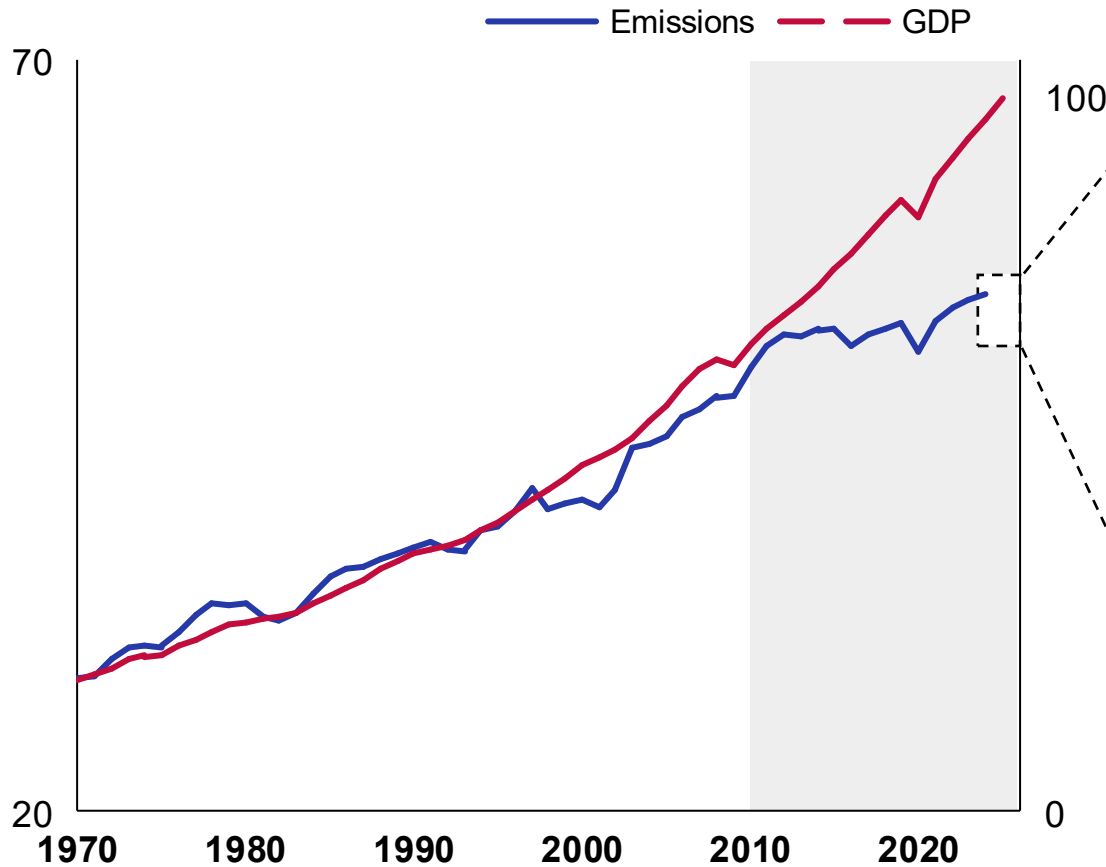
Climate finance continues to grow, albeit at a slower pace

Global climate mitigation finance deployed with public-private sector split
\$trn, %

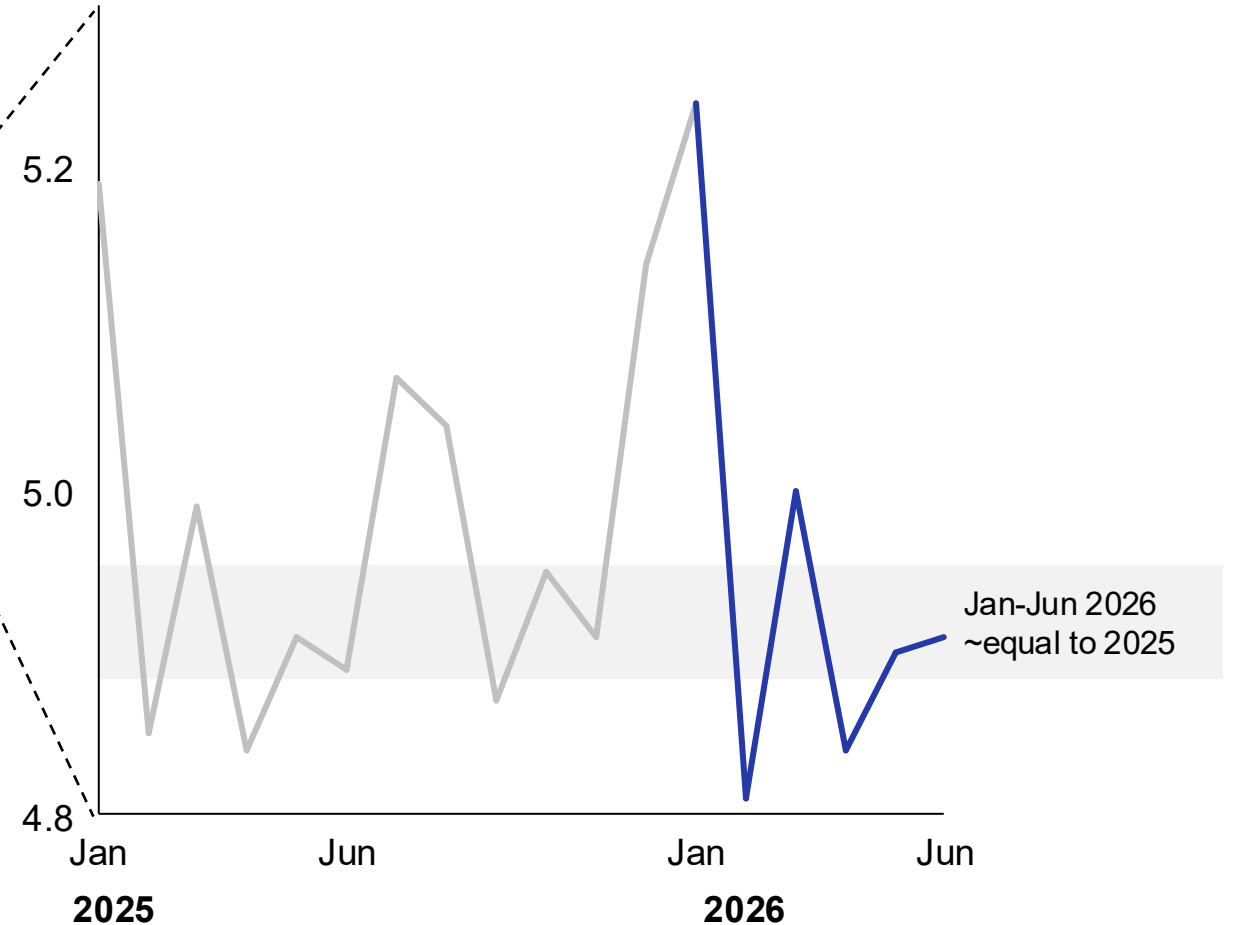


Mitigation efforts have decoupled emissions from GDP growth

Historic annual global emissions
GtCO₂e, GDP in 2015 \$trn

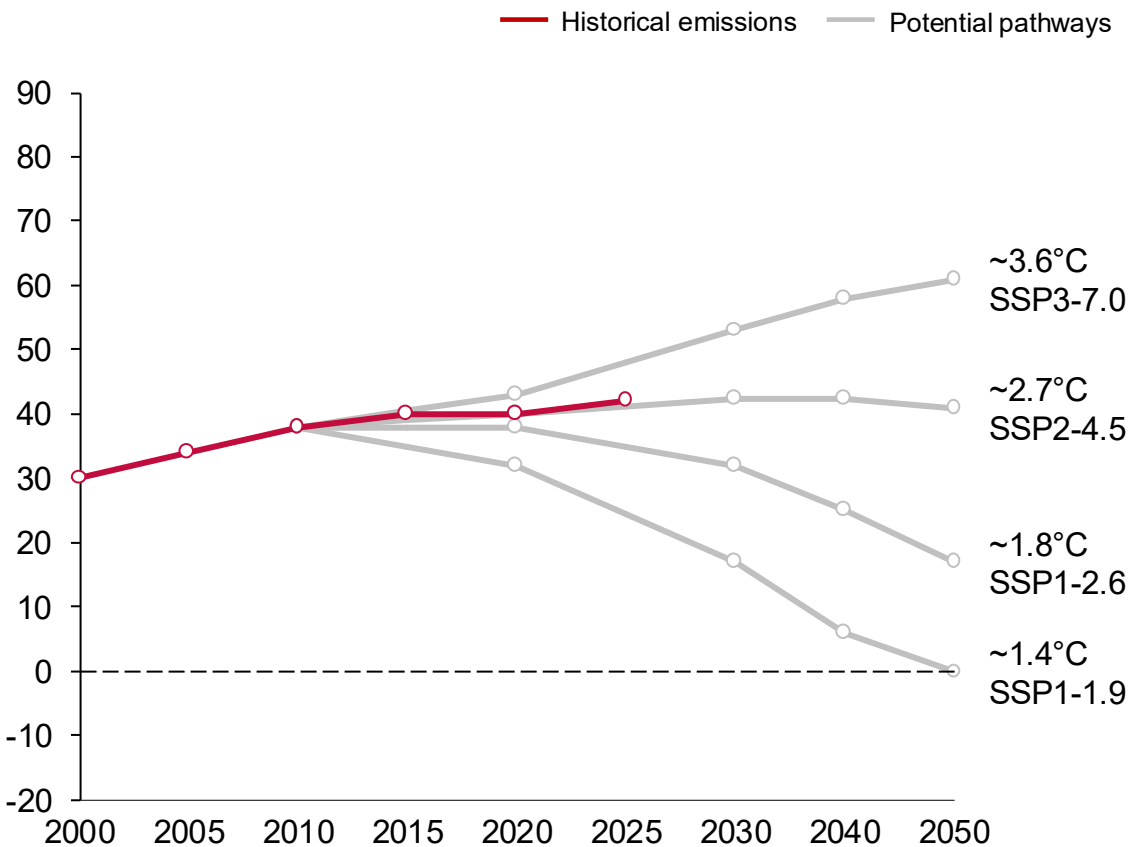


Monthly global emissions 2025 vs 2026
GtCO₂e

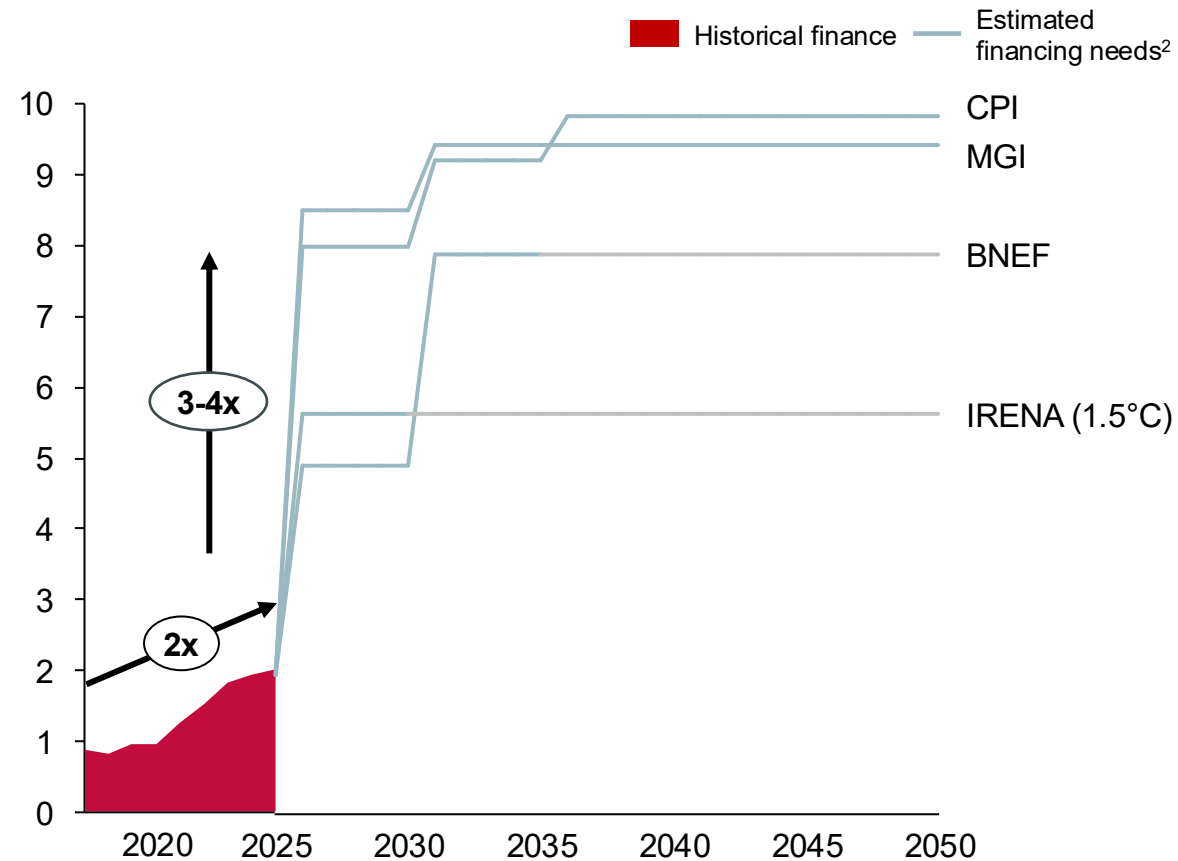


However, historical emissions are in line with a >2°C warming pathway; achieving net zero requires a 3-4x increase in financing

Historical emissions and global greenhouse gas emissions pathways¹
GtCO₂ p.a. scenarios



Global climate finance, historical and future need
\$trn



2

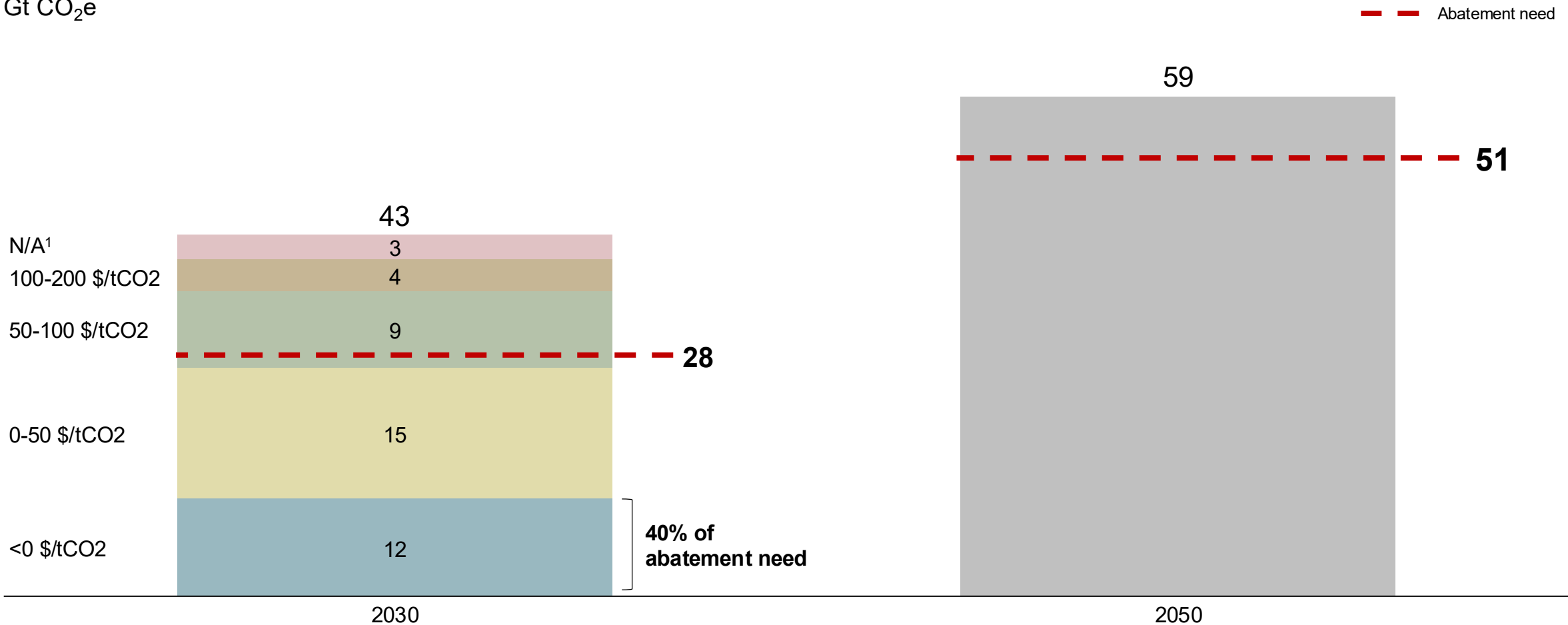
Climate finance needs across sectors

Existing technologies can more than deliver on required abatement through 2050, but a climate financing gap persists across all sectors. The Energy, Transport and Built Environment sectors still attract ~95% of climate capital but cost competitive technologies exist more broadly and 85 technologies have progressed to market readiness since 2020. According to estimates, mobilizing private capital into scale-ready solutions could unlock an opportunity of \$9-12trn new revenue annually by 2030.

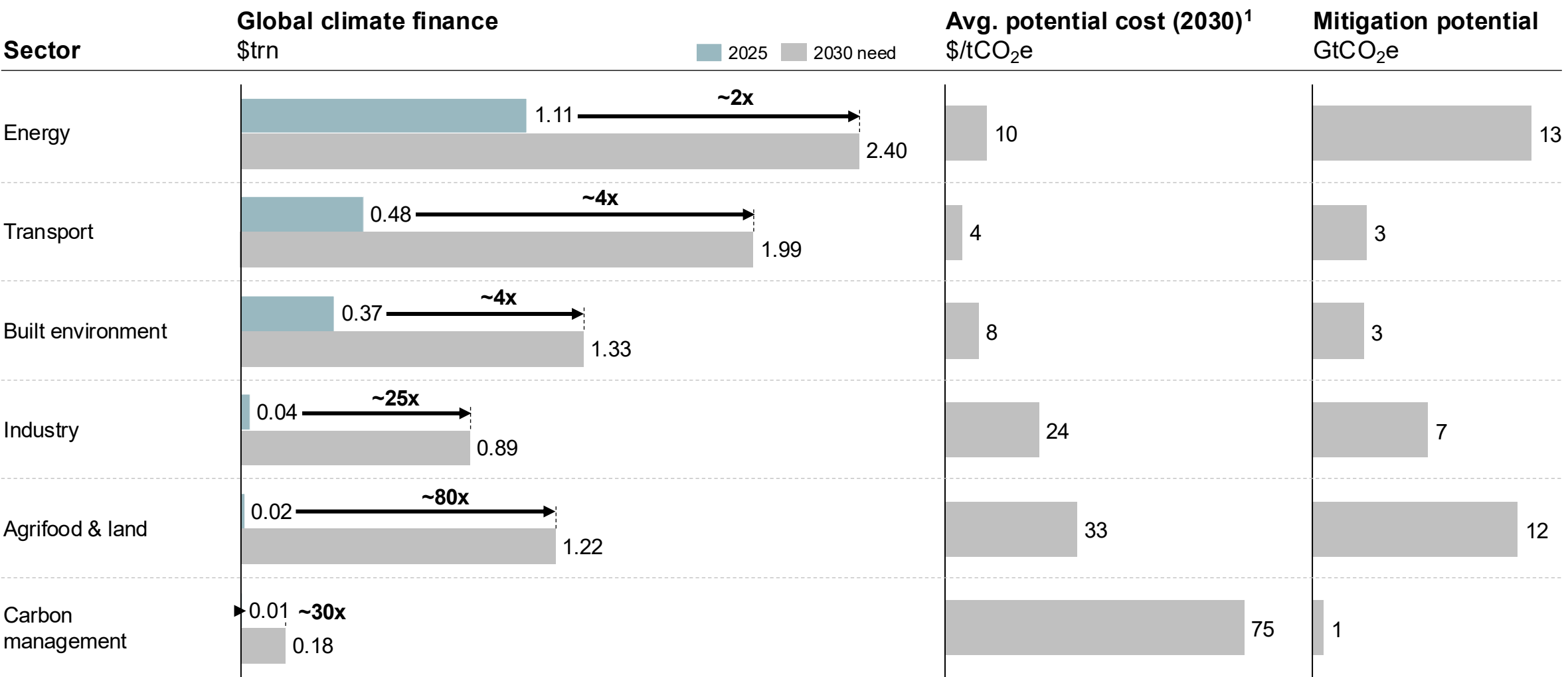
- **Existing technologies can more than deliver on required abatement through 2050**, and ~40% of 2030 emissions cuts can be addressed by technologies that are below current reference cost.
- **The climate financing gap persists across all sectors**, with capital distribution by cost competitiveness rather than mitigation potential.
- **Energy, Transport and Built Environment attracts ~95% of climate financing**, with many technologies being cost competitive. For example, **renewable energy technologies are now ~40% cheaper than fossil fuels** and attract nearly double the investment.
- **85 technologies reached market readiness since 2020**, raising the total to ~40% of technologies ready for market uptake.
- **Mobilizing private capital into scale-ready solutions could unlock an opportunity of \$9-12trn** in annual new revenue by 2030.

Existing technologies can more than deliver on abatement needs, and ~40% of 2030 need can be addressed by cost competitive technologies

Mitigation potential vs abatement needs by lifetime cost relative to reference cost
Gt CO₂e



Climate financing gap persists across all sectors, with capital distribution by cost competitiveness rather than mitigation potential

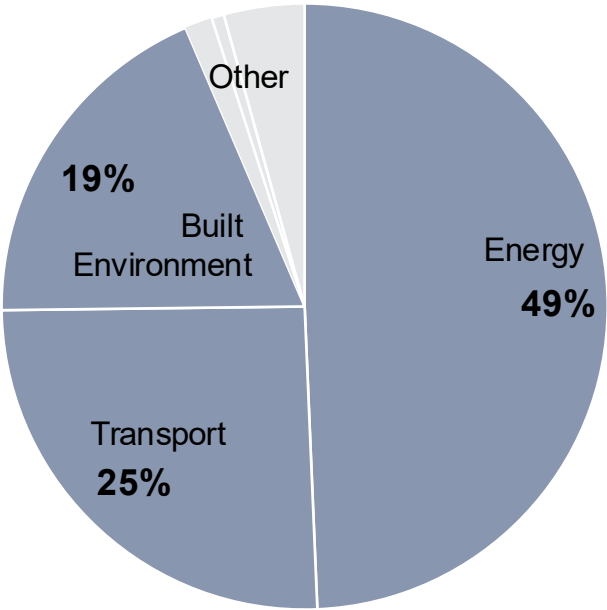


Note: 1. Cost relative to reference technology in 2030, weighted for 2030 abatement need | Excludes adaptation finance requirements; Excludes Waste & Wastewater; Carbon management refers to carbon removals and negative emissions (e.g., CCUS, DACS, BECCS); Given the multiple sources and lack of harmonized methodologies, the data can only be indicative of the size and pattern of investment gaps.

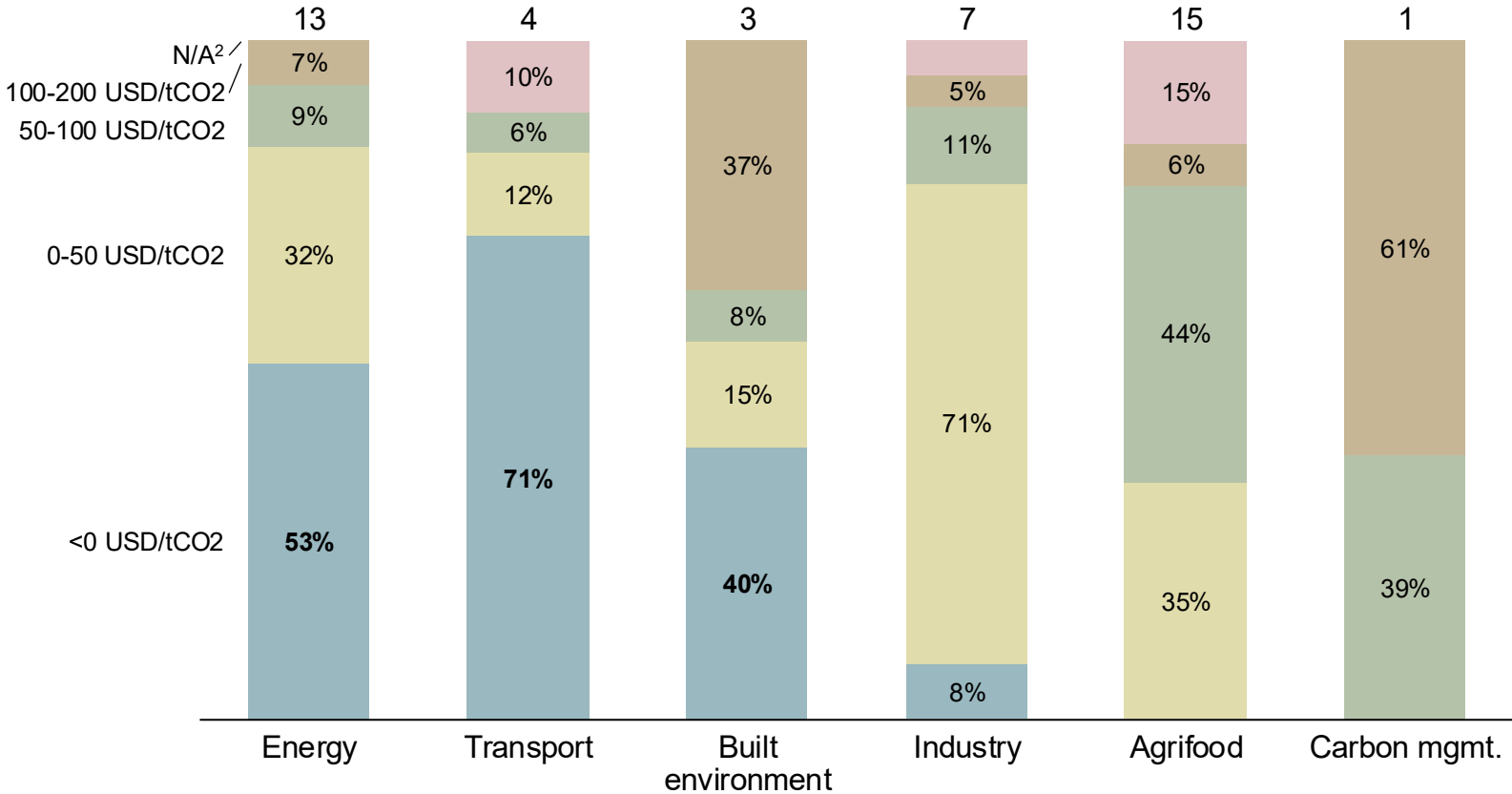
Source: CPI (2026) Global Landscape of Climate Finance; IPCC (2021) Sixth Assessment Report; BloombergNEF (2026) New Energy Outlook; IEA (2026) World Energy Investment; McKinsey Global Institute (2022) The net-zero transition: What it would cost, what it could bring

~95% of capital flows to the Energy, Transport and Built Environment sectors, and >40% of their solutions are cost competitive

Global climate finance deployed by sector in 2024
\$bn, %

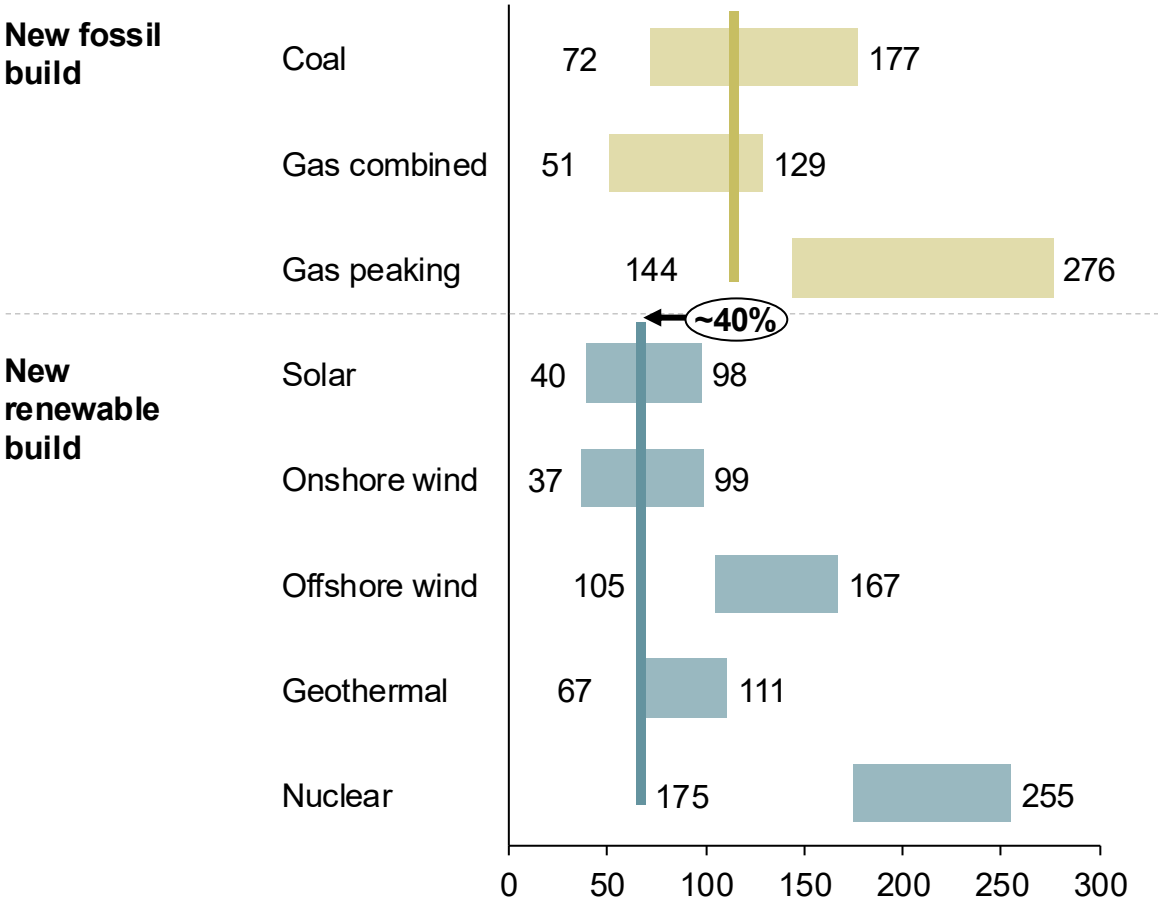


Net lifetime cost of selected available solutions by sector relative to reference cost¹
Gt CO₂e

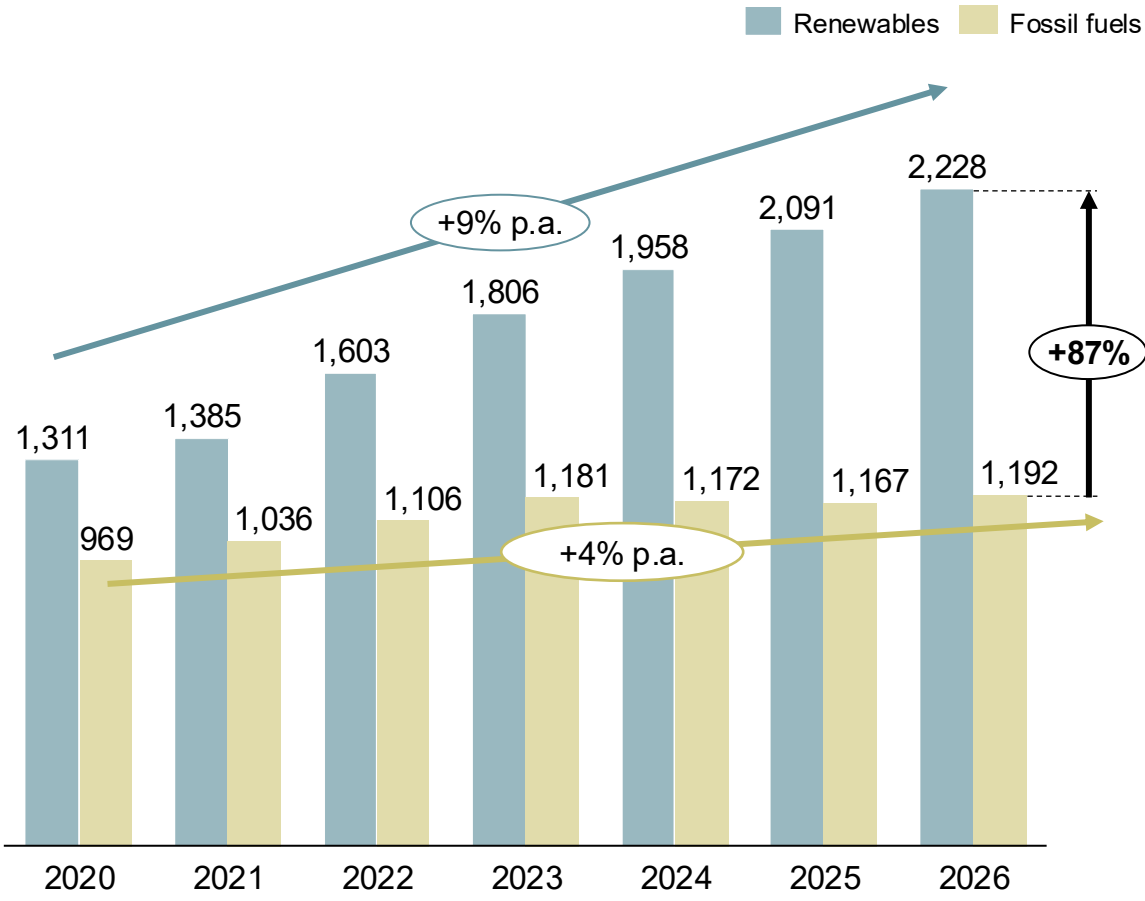


Renewables are ~40% cheaper than fossil fuels and attract nearly double the investment

LCOE by technology (2026)
\$/MWh

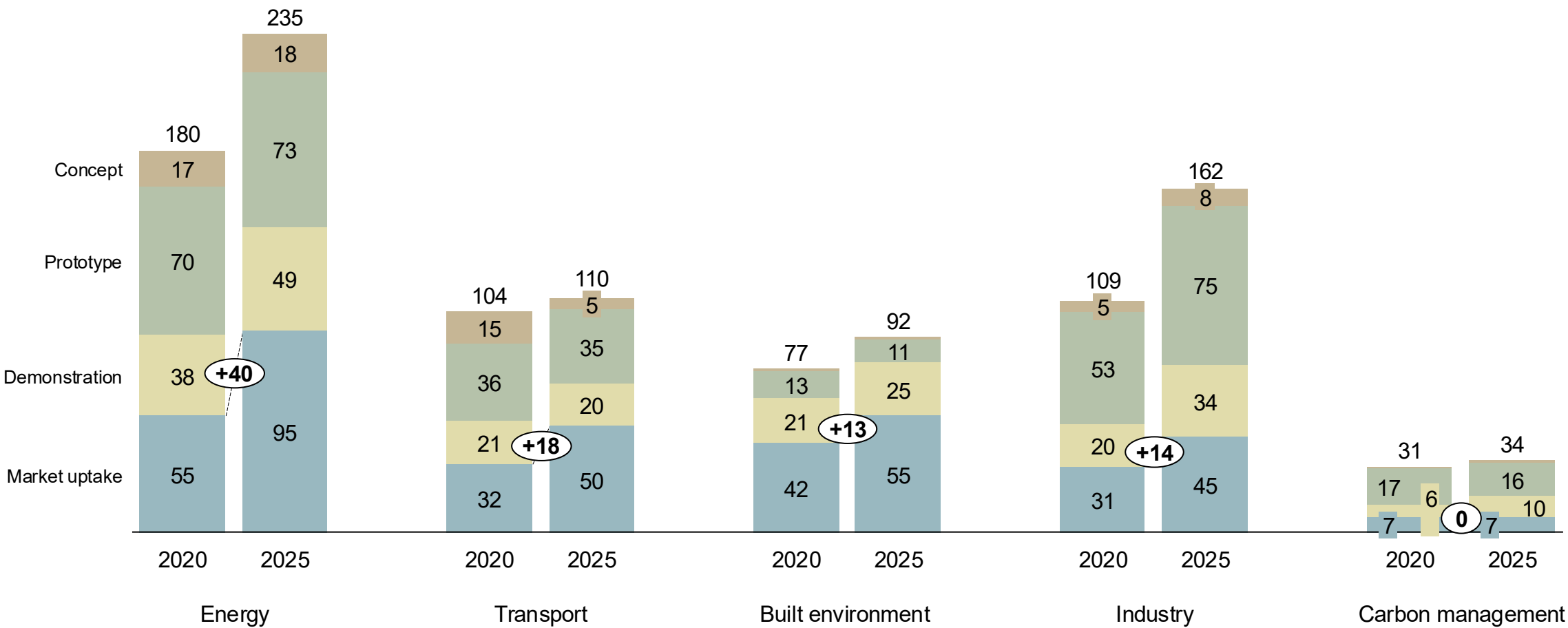


Global investment in renewables¹ and fossil fuels (2020-2026)
\$bn



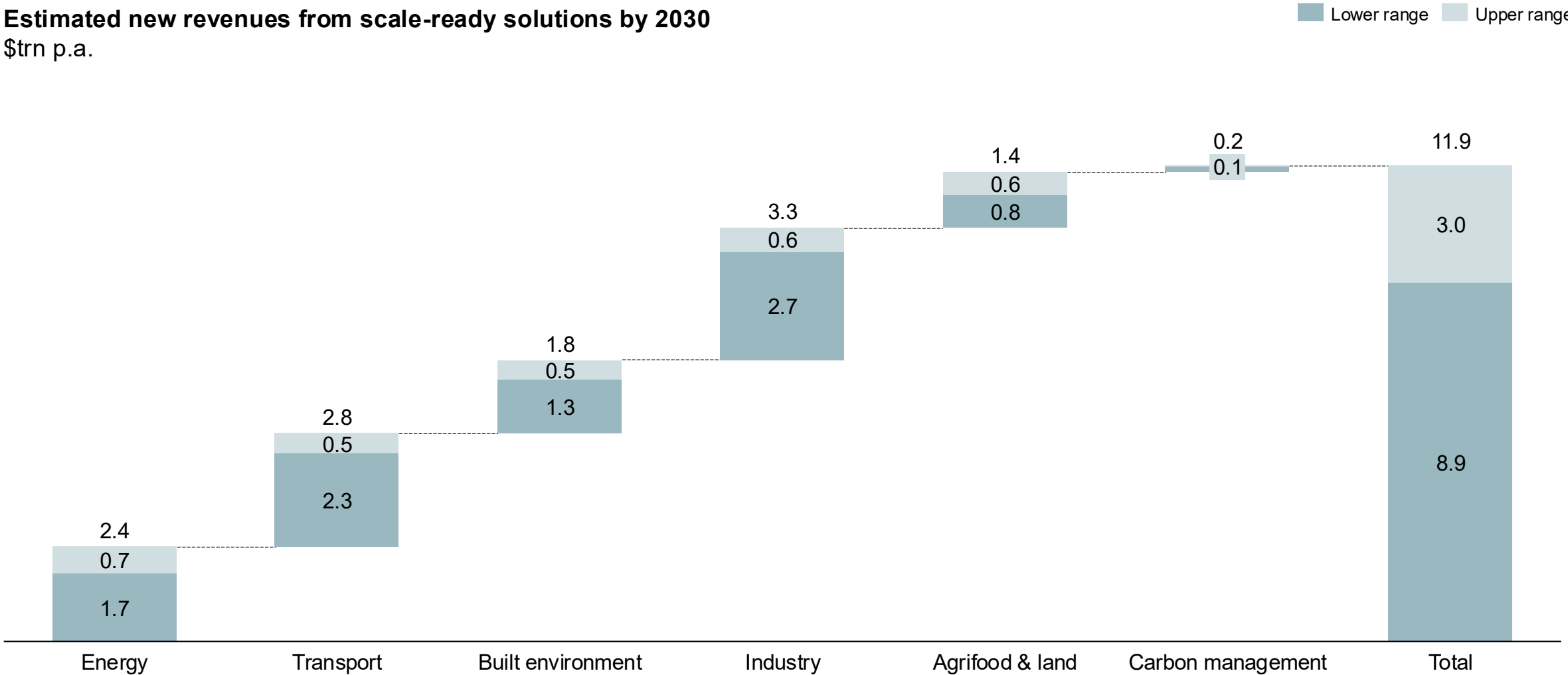
~85 technologies have progressed to market uptake readiness since 2020

Technology maturity levels (TRL) in 2020 and 2025 by sector



By mobilizing private capital into scale-ready solutions, investors can unlock \$9-12 trillion in annual new revenues by 2030

Estimated new revenues from scale-ready solutions by 2030
\$trn p.a.



3

Recent trends in climate private capital

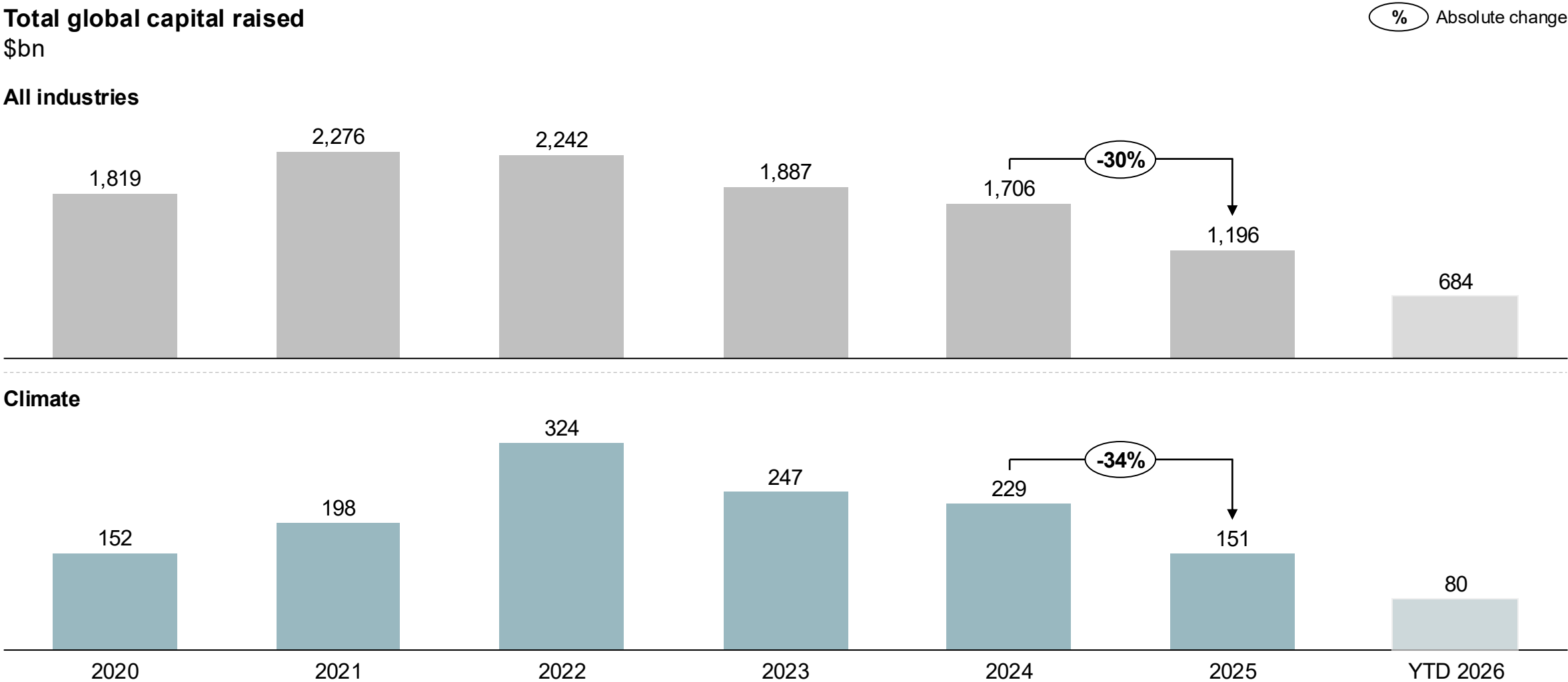
Climate fundraising and deal flow contracted between 2024 and 2025. Emerging manager share of fundraising recovered to ~43%, slightly above historical levels. Mega-funds (>\$1bn) continue to attract almost two-thirds of capital, leaving space for smaller and mid-sized funds to effectively serve those sectors and opportunities requiring smaller checks. Debt's share in deal investment has increased four-fold over the past 5-years, but private equity remains under-invested. Climate fund returns lag the market by 2pp, with VC and Debt returns dragging down market-average performance in other asset classes. Valuation multiples for climate deals larger than \$100m are broadly in line with the market, but smaller deals remain at a premium. Relatively high levels of dry powder in climate funds presents both an opportunity and a challenge to deploy more capital.

- **Climate fundraising contracted by ~34% between 2024 and 2025**, slightly more than the market at ~30%.
- **Climate deal flow contracted by 18% between 2024 and 2025**, as the market rose by 23%.
- **Emerging manager share of fundraising recovered to 43% in 2025**, slightly above the 5-year average of 37%, after declining from 2021 to 2024.
- **Mega funds (>\$1bn) attract 65% of all climate fundraising**, leaving smaller funds underserved.
- **Debt's share in climate deal investment has increased 4x** compared to 2x in the market over 2021-2025.
- **Private equity remains underrepresented in climate at 16%** of fundraising as compared to 43% in the market.
- **Climate fund returns lag the market by 2pp**, with VC and Debt returns holding down market-average returns in other asset classes.
- **Climate deal valuation multiples have decreased** to align with the market for deals >\$100m, but smaller deals are still 1.4-2.2x the market.
- **Climate dry powder is higher than the market** on average, presenting a \$12.8bn deployment opportunity for 2022-2025 vintages.

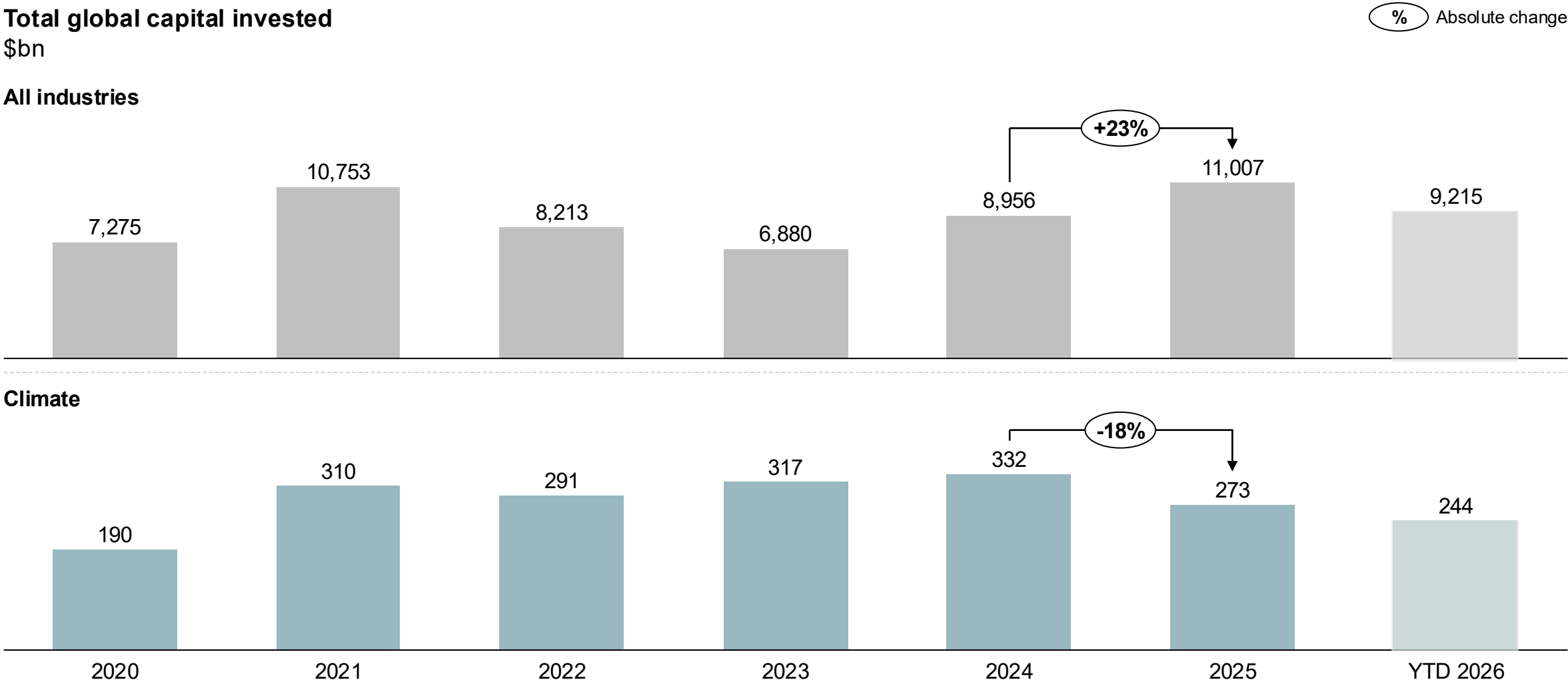
Eight notable shifts in climate private capital over the past year

1 Fundraising	↓	Decreased ~34% between 2024 and 2025 compared to ~30% in the market
2 Investment	↓	Decreased ~18% between 2024 and 2025 compared to ~23% increase in the market, after rising 15% p.a. from 2020-2024
3 Manager funding	↑	Emerging manager share increased to 43% in 2025, after declining until 2024
4 Fund size mix	↓	Mega funds (>\$1bn) attract ~65% of fundraising, leaving smaller funds underserved
5 Debt	↑	Debt's share in deal investment has increased 4x compared to 2x in the market over 2021-2025
6 PE	↓	Private equity remains underrepresented, at 16% of fundraising as compared to 43% in the market
7 Returns and valuation multiples	→	Climate fund returns continue to lag the market, although asset class returns in Growth Equity, PE (buyout) and real assets are broadly in line with the overall market. Deal premiums are coming down but valuation multiples are still 1.4 - 2.2x higher than the market for deals below \$100m
8 Dry powder	→	Dry powder remains high, capital is available for deployment

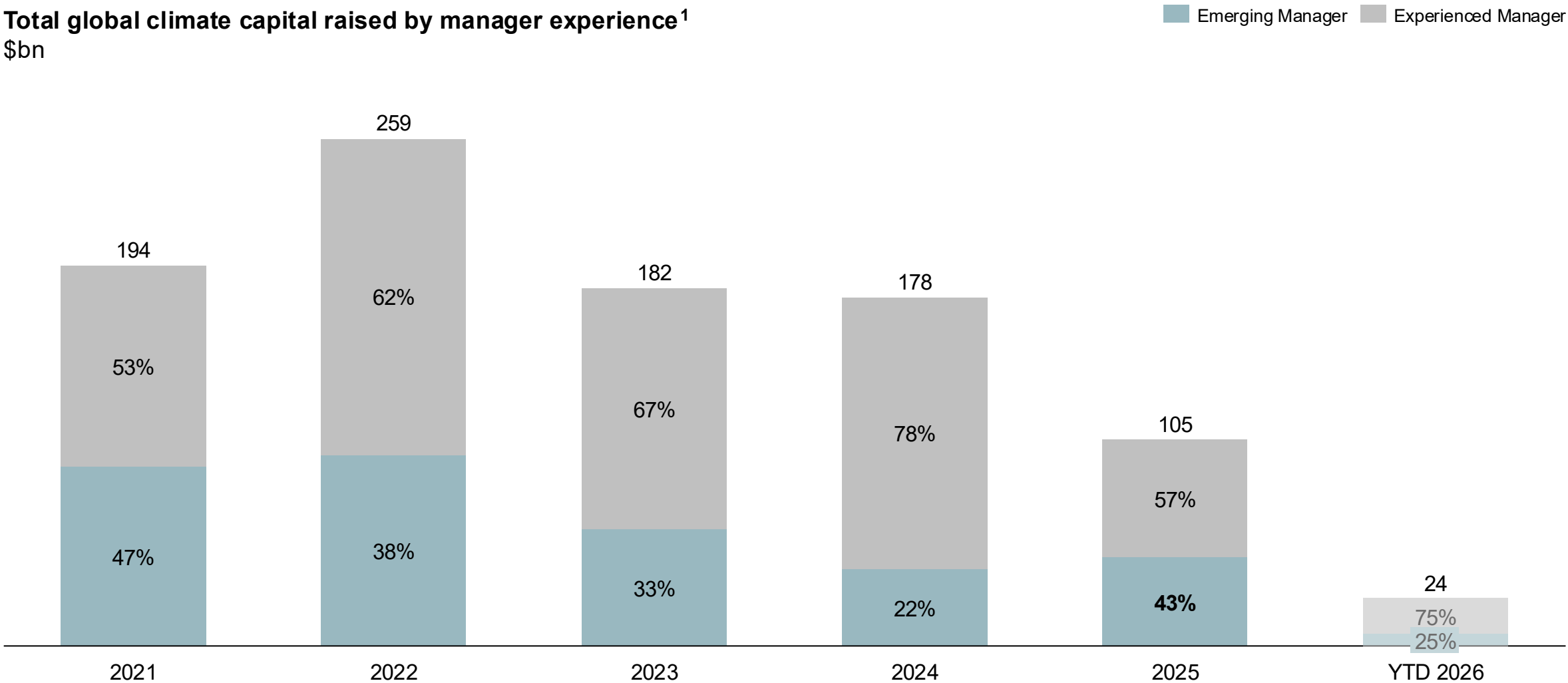
Climate fundraising declined by ~34% between 2024 and 2025, slightly more than the market at ~30%



Climate deal flow declined by ~18% between 2024 and 2025, as the market increased by ~23%



Emerging Manager share of climate fundraising was declining from 2021 to 2024, but increased to 43% in 2025



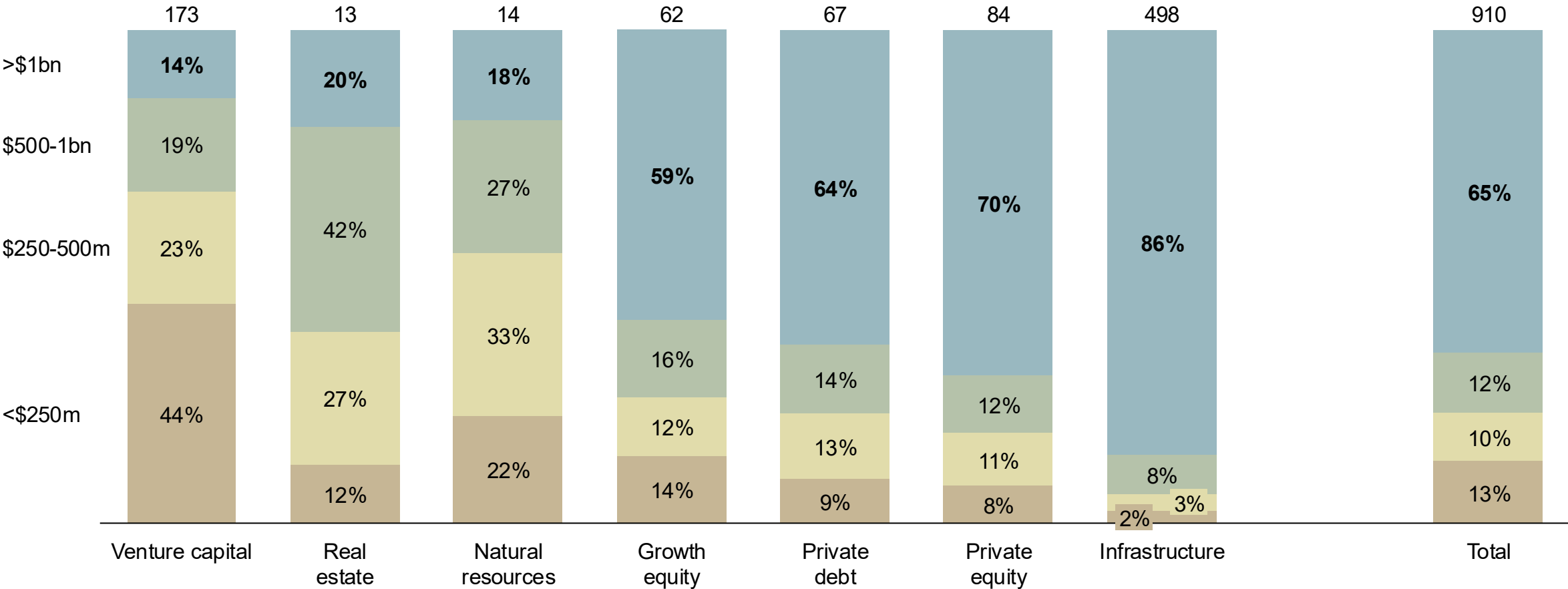
Note:

Source:

1. Manager experience is estimated using Fund Number, which tracks the chronological order of all funds raised by an investor, not just climate-related ones. Funds I-III are considered emerging managers | Combined dataset of PitchBook and CREO data, excludes abandoned funds; PitchBook climate funds identified via vertical, impact category preference, real asset preference, other stated preferences, and manually verified by fund

Mega-funds over \$1bn attract ~65% of climate fundraising

Climate capital raised by fund type and size
\$bn, %



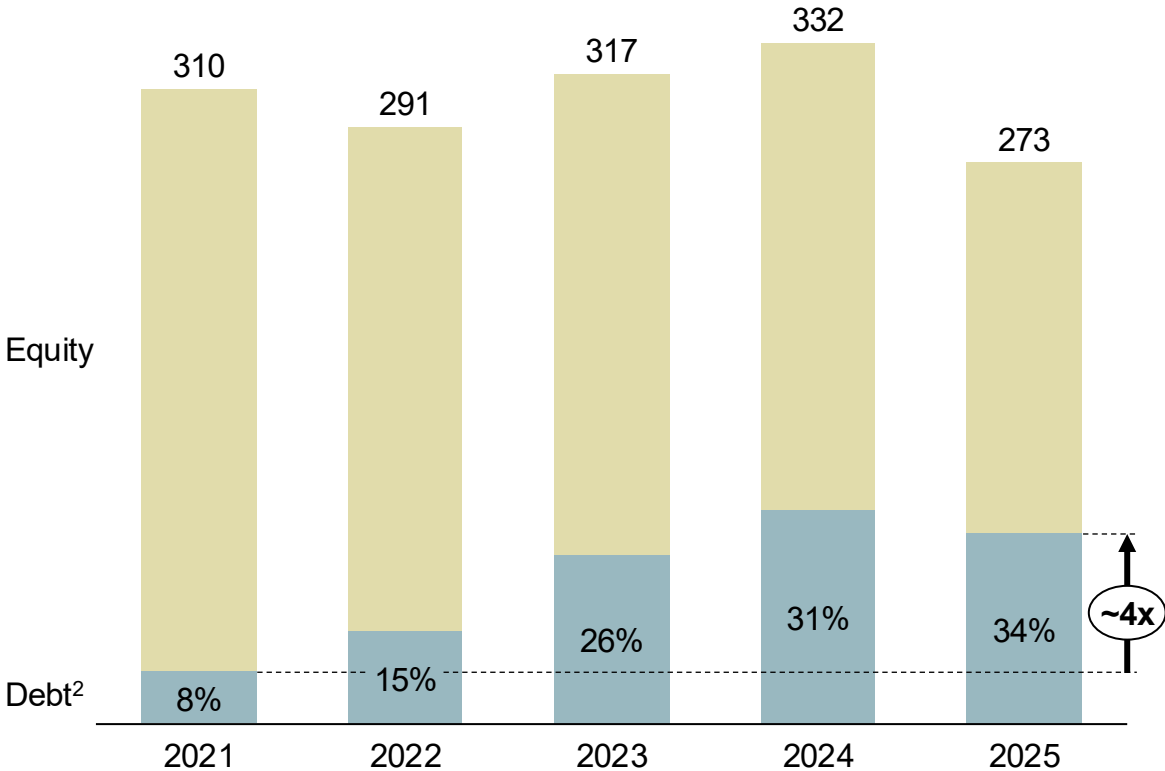
Note: Combined dataset of PitchBook and CREO data, excludes abandoned funds; PitchBook climate funds identified via vertical, impact category preference, real asset preference, other stated preferences, and manually verified by fund

Source: PitchBook, CREO Data Platform, CREO Analysis

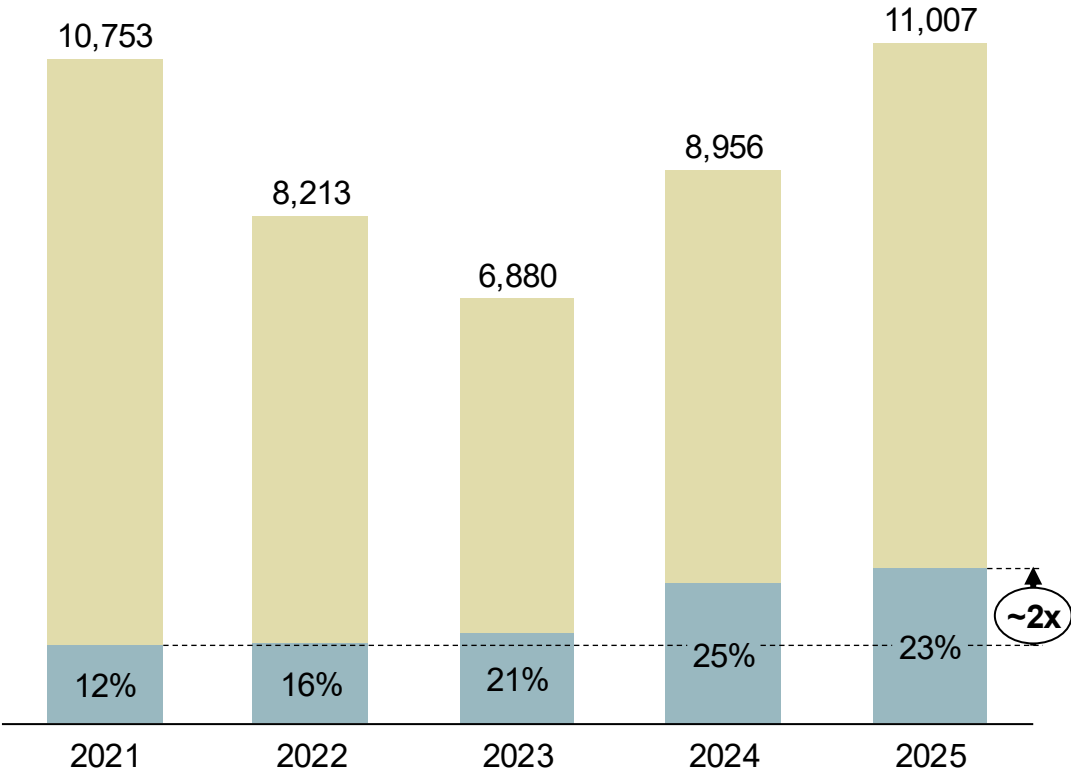
Debt's share in climate deal investment has grown 4x since 2021

Capital invested in debt and equity deals (excl. others¹)
\$bn

Climate



All industries



Note: Combined dataset of PitchBook and CREO data, excludes <\$3m and cancelled / failed deals, debt refinancing & restructuring, bankruptcy; PitchBook climate deals identified via vertical and manually verified by company

1. Others includes corporate M&A, public market, and other deals

2. Debt includes general debt, project financing, and other debt, excluding refinancing and recapitalization

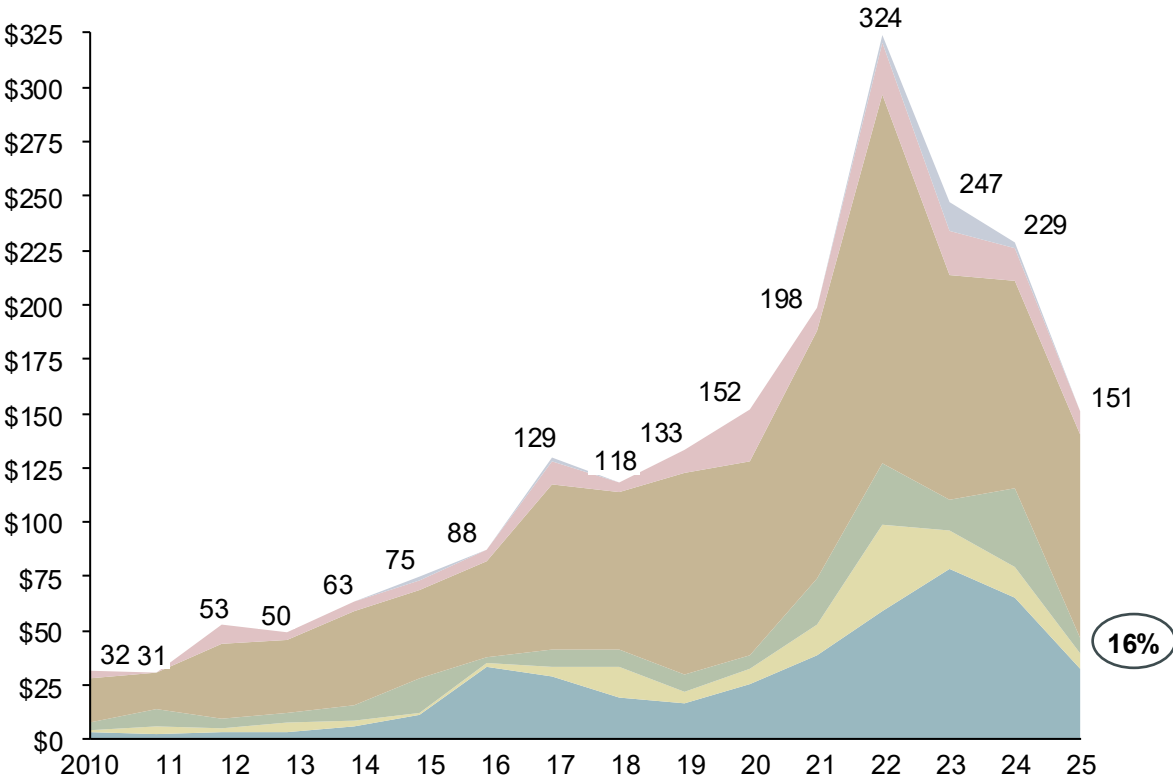
Source: CREO data, PitchBook Inc, CREO analysis

Private Equity remains under-represented in climate at ~16% of fundraising as compared to ~43% in the market

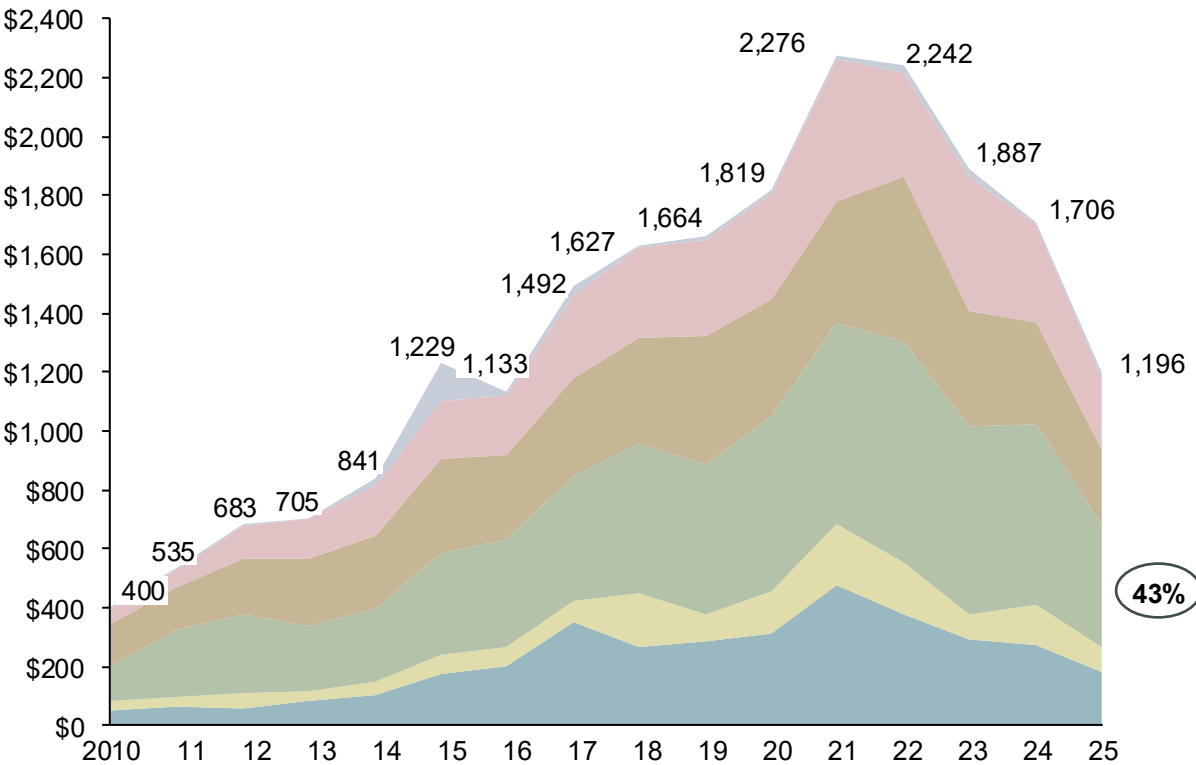
Total capital raised by fund type
\$bn, %

Venture capital Growth equity Private equity Real assets Private debt Other

Climate



All industries



Note:

Combined dataset of PitchBook and CREO data, excludes abandoned funds; PitchBook climate funds identified via vertical, impact category preference, real asset preference, other stated preferences, and manually verified by fund

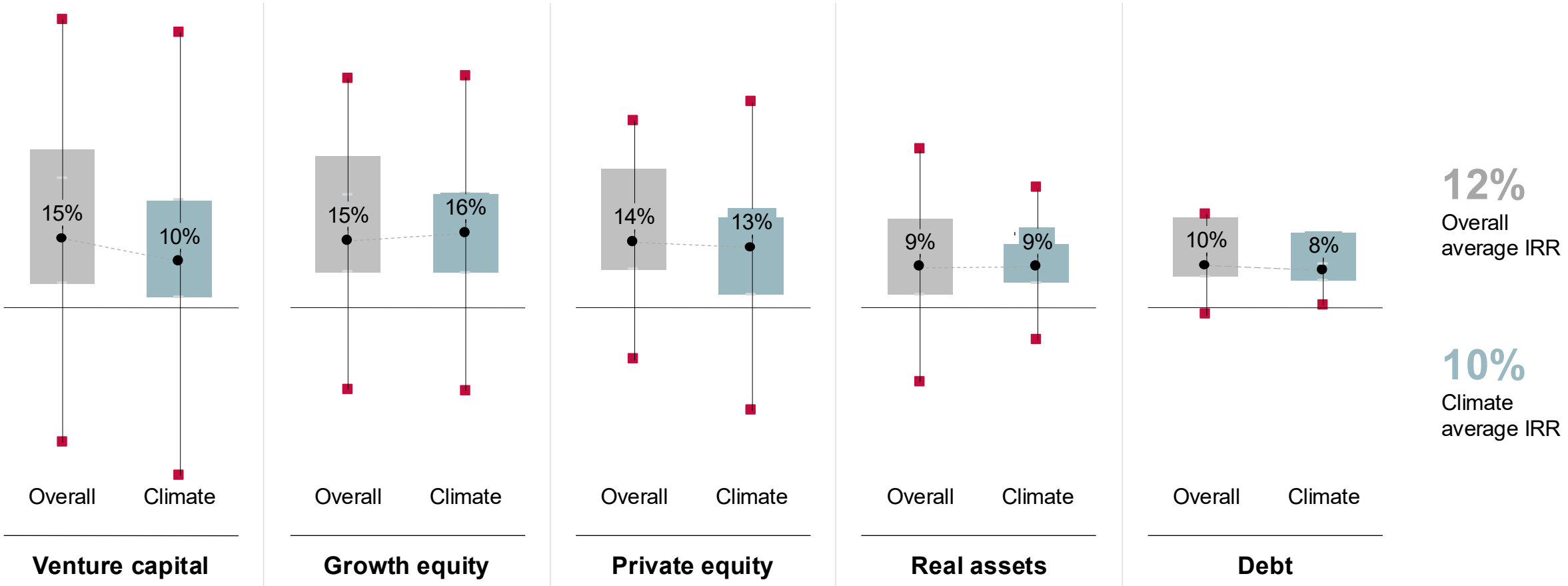
Source:

PitchBook, CREO Data Platform, CREO Analysis

Climate fund returns lag the market by 2pp, with VC and Debt returns holding down market-average returns in other asset classes

Performance by fund type (2010 – 2025)
Net IRR

■ Interquartile range ● Median net IRR ■ Range¹



Note: 1. Range refers to 1.5 x IQR above the 75th percentile and below the 25th percentile | Combined dataset of PitchBook and CREO data, excludes abandoned funds; PitchBook climate funds identified via vertical, impact category preference, real asset preference, other stated preferences, and manually verified by fund

Source: PitchBook, CREO Data Platform, CREO Analysis

Climate’s valuation multiples are aligned with the market for deals >\$100m, but smaller deals are still expensive

Deal valuation multiples across deal sizes
Post-money valuation/revenue median

X Climate vs. all industries multiple, 2024 and 2025

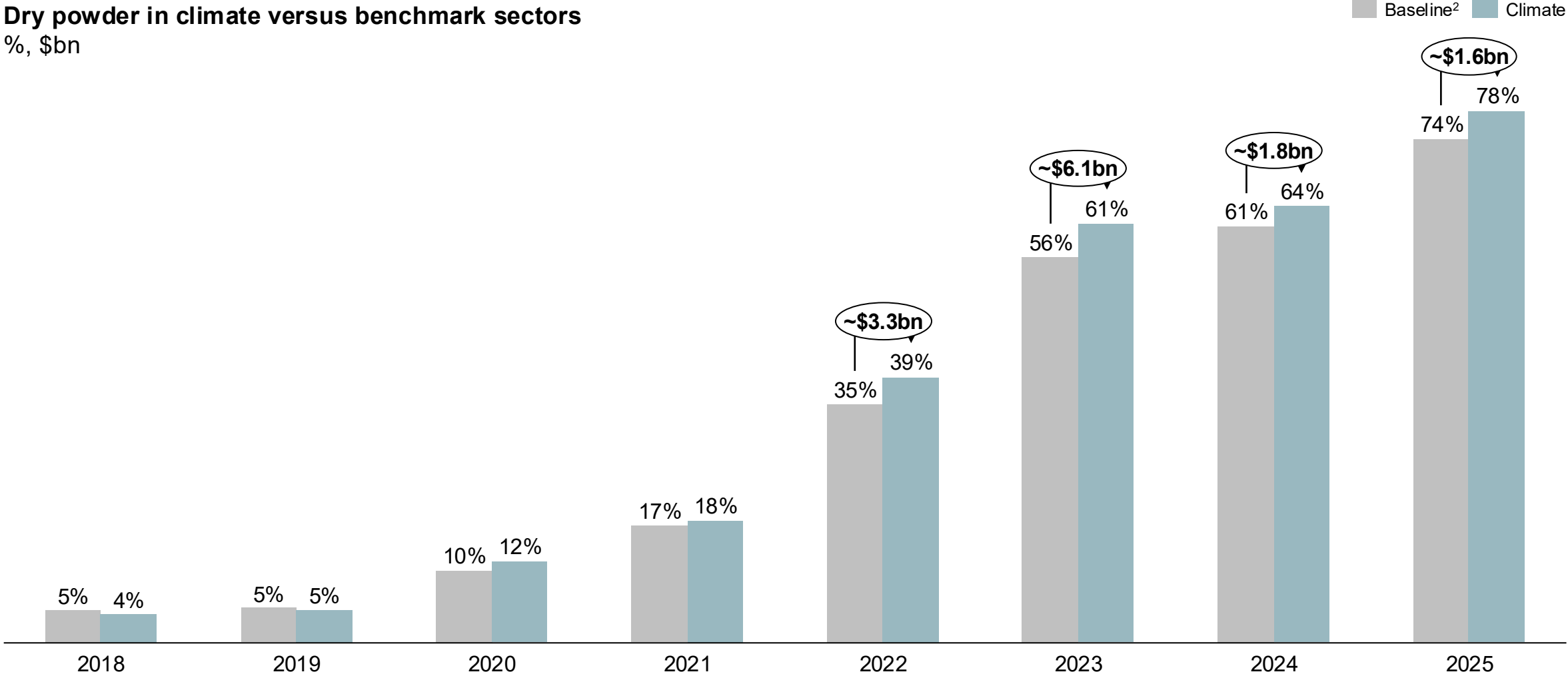


Note: Combined dataset of PitchBook and CREO data, excludes <\$3m and cancelled / failed deals, debt refinancing & restructuring, bankruptcy; PitchBook climate deals identified via vertical and manually verified by company

Source: PitchBook, CREO Data Platform, CREO Analysis

Climate dry powder is higher than the market on average, presenting a \$12.8bn¹ deployment opportunity for 2022-2025 vintages

Dry powder in climate versus benchmark sectors
%, \$bn



Note: 1. The baseline applies the weighted-average called-down % of key sectors excluding climate to the climate reporting base. 2. Baseline average dry powder for Software tech, Manufacturing and supply chain, Health tech, E-commerce, FinTech, Infrastructure | Climate average dry powder for funds with verticals CleanTech, ClimateTech or AgTech | Combined dataset of PitchBook and CREO data, excludes abandoned funds; PitchBook climate funds identified via vertical, impact category preference, real asset preference, other stated preferences, and manually verified by fund

Source: PitchBook, CREO Data Platform, CREO Analysis

4

Climate investment imperatives

Five imperatives for investors to close the climate financing gap:

- **Get comfortable operating under geopolitical risk:** Half of global climate deal flow is in the US and China, where governments have increased their involvement in private investment, potentially to steer alignment with domestic climate policy. Private investors could enjoy material returns but will have to get used to managing geopolitical risk.
- **Prompt Private Equity to get off the sidelines:** Private Equity accounts for 16% of climate fundraising vs 43% in the market. Given that 40% of climate technologies are ready for market uptake in 2025, with 85 technologies having progressed to market readiness since 2020, and >40% of Energy, Transport and Built Environment solutions are now cost competitive, there is an opportunity for private equity investment.
- **Back mid-sized funds to play a bigger role:** Mega-funds (>\$1bn) attract ~65% of climate fundraising, which could lead to a capital deployment mismatch as average deal sizes in VC (~\$13m), Growth Equity (~\$45m) and PE (~\$33m) can be more suitably served by the typical check sizes deployed by mid-sized funds.
- **Build risk transfer infrastructure to unlock more capital:** While climate deals have been historically equity driven, its debt share is growing faster than the market. Debt financing may be better suited to the significant climate infrastructure investment required, but unlocking institutional capital would require the transfer of risk outside the capital stack.
- **Continue disciplined investment, particularly in early stages:** Climate valuation multiples have fallen across the board and are aligned with the market for deals >\$100m, but smaller deals remain expensive. Disciplined investing can increase returns.

1. Get comfortable operating under geopolitical risk

Reuters World Business Markets Sustainability Legal More

"It's a joke': retail investors shocked as China halts Ant Group's IPO

By Yoyo Chow And Clare Jim
November 5, 2020 4:05 AM GMT · Updated November 5, 2020

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Germany was once seen as a climate champion. It set ambitious targets to slash planet-heating pollution. Its Green party rode high in the 2021 elections, becoming part of the government.

Fast-forward less than four years and that image seems to be unraveling.

Reuters World Business Markets Sustainability Legal More

China to step up policy support for private investment in energy sector

By Reuters
November 11, 2025 5:04 PM GMT · Updated November 11, 2025

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Summary

- Focus on nuclear, hydropower, and cross-regional power transmission projects
- Private firms can hold up to 20% in major nuclear projects
- Government trying to improve sluggish investment and weak domestic consumption

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ENERGY · OIL

Oil surges back above \$100 a barrel as diesel climbs to a record \$5.94 per gallon

By Cathy Bussewitz and The Associated Press
September 9, 2026, 1:32 PM ET

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By Kate Abnett
September 12, 2025 8:04 PM GMT+1 · Updated September 12, 2025

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Trump administration admits it canceled \$7.6 billion in clean energy projects 'based solely on the political identity of the grant recipient's state'

By Matthew Daly and The Associated Press
July 26, 2026, 10:54 AM ET

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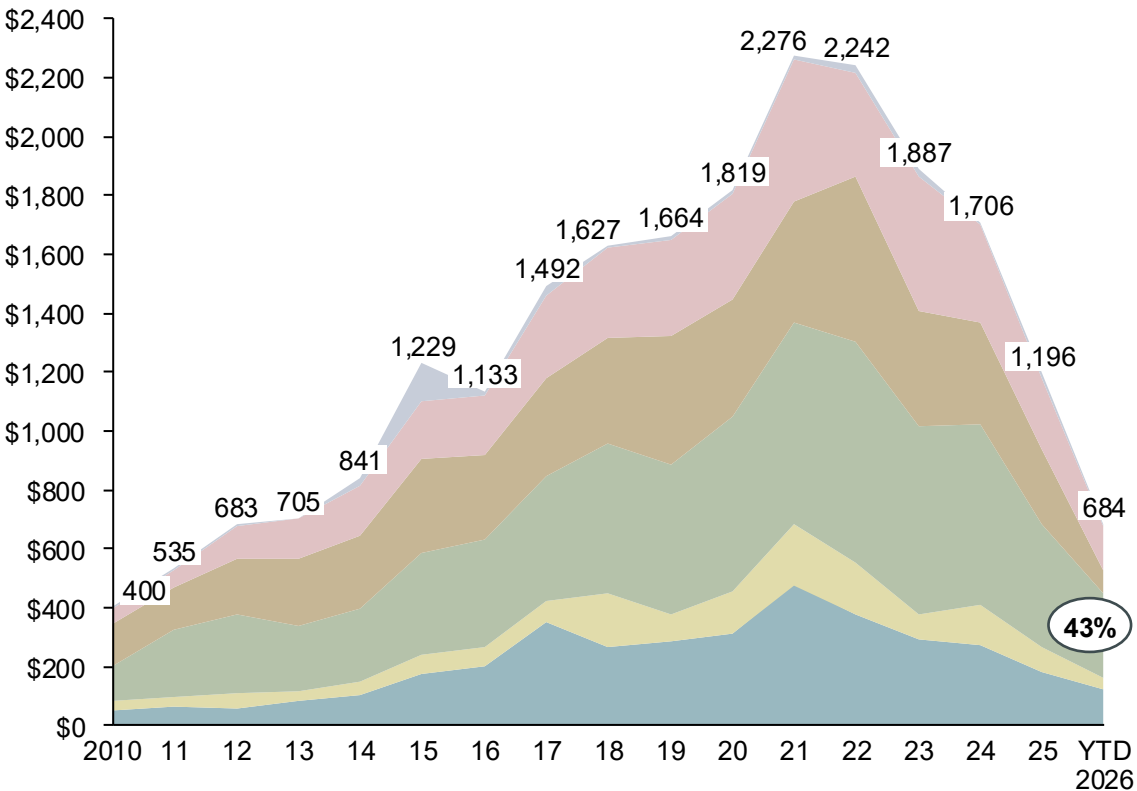
Turbines are visible at Sunrise Wind offshore wind farm that is under construction off the coast of Montauk Point, New York, April 23, 2026.
AP PHOTO/JOSHUA A. BICKEL

2. Prompt Private Equity to get off the sidelines

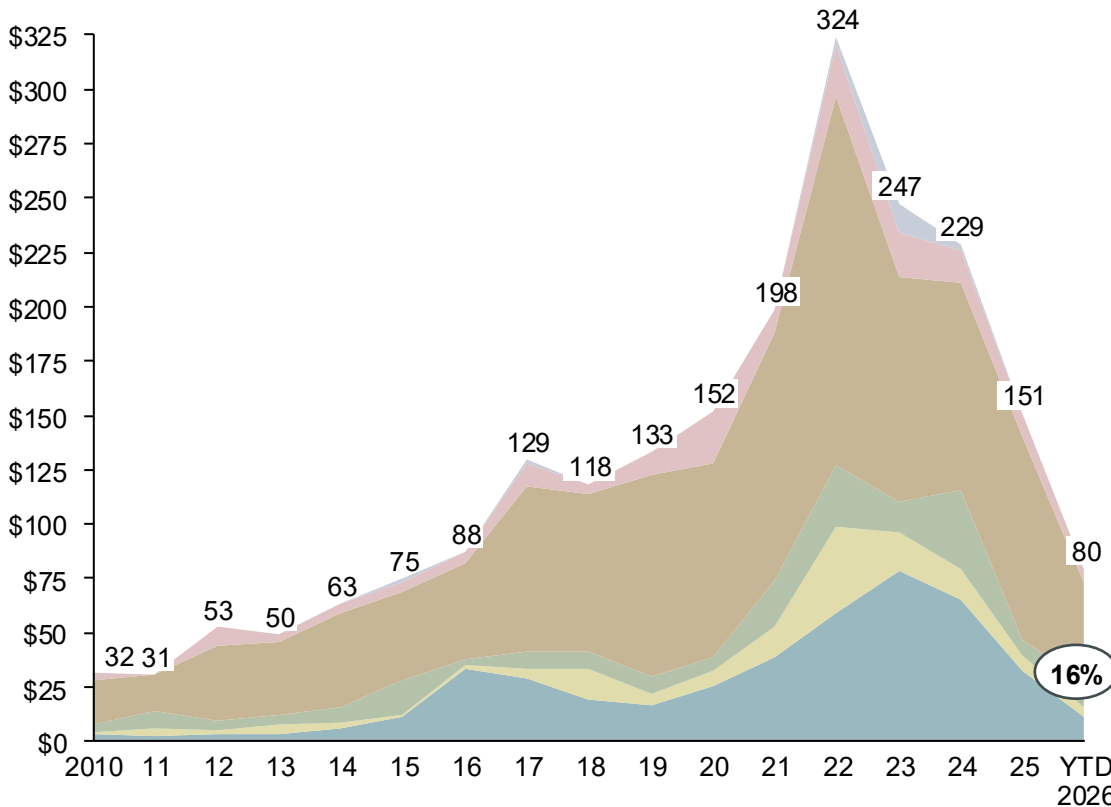
Total capital raised by asset class
\$bn, %

Venture capital Growth equity Private equity Real assets Private debt Other

All industries



Climate

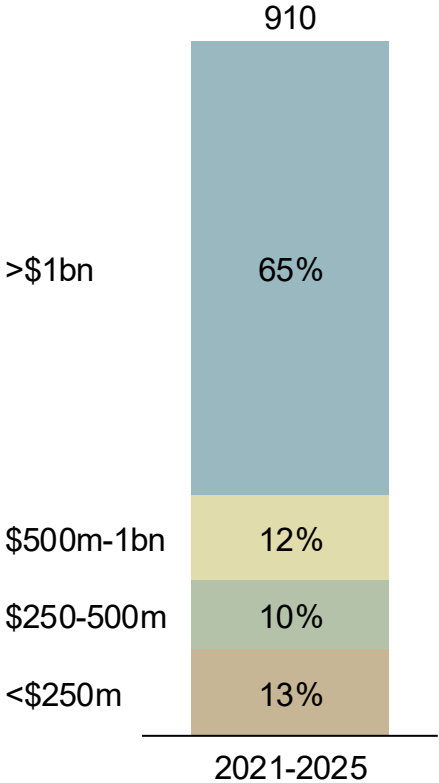


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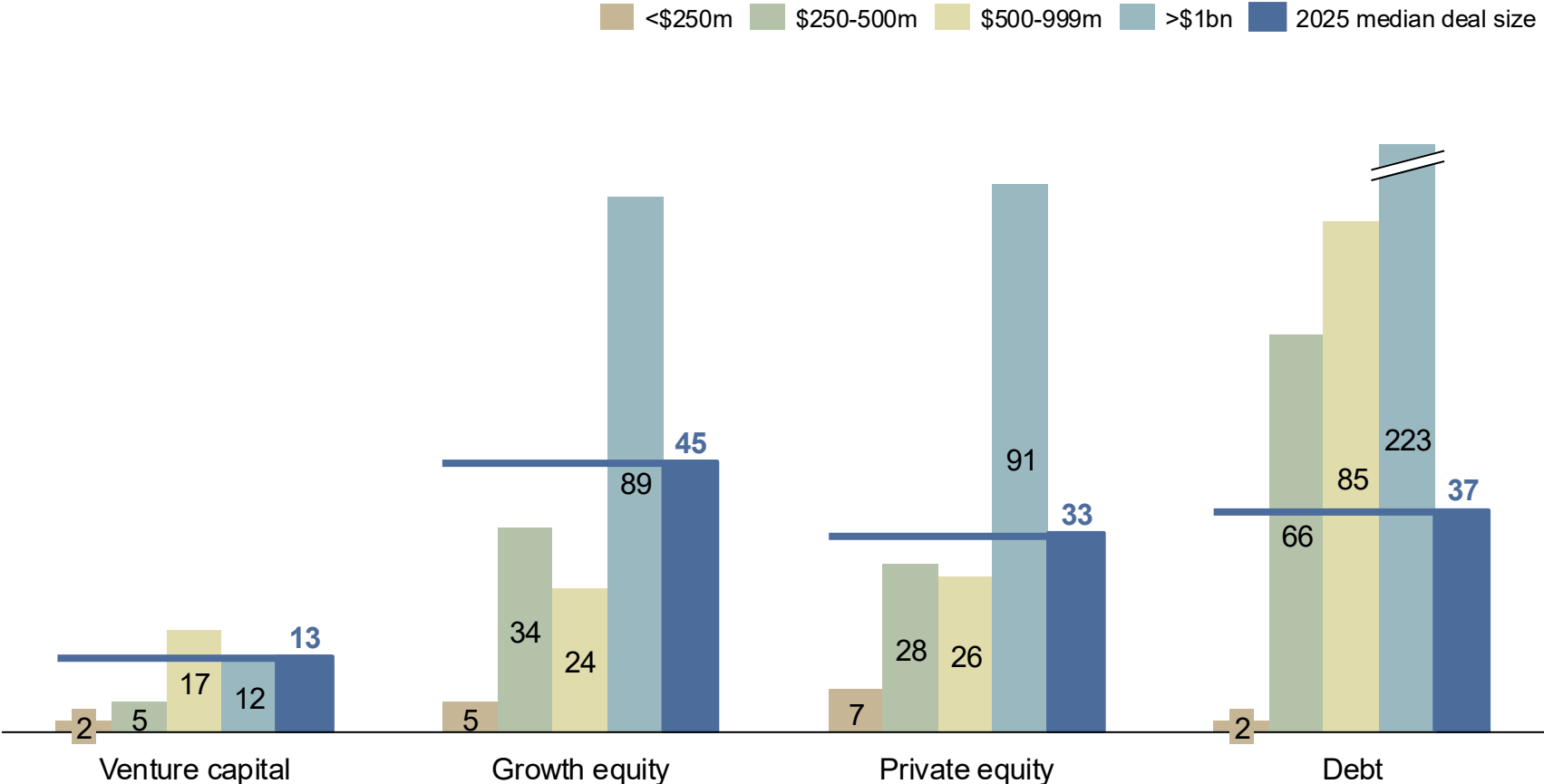
Source: PitchBook, CREO Data Platform, CREO Analysis

3. Back mid-sized funds to play a bigger role

Climate capital raised
\$bn, %



Median check size by climate fund type and size 2010 - 2025
\$m



Note: Combined dataset of PitchBook and CREO data, excludes abandoned funds; PitchBook climate funds identified via vertical, impact category preference, real asset preference, other stated preferences, and manually verified by fund

Source: PitchBook, CREO Data Platform, CREO Analysis

4. Build risk transfer infrastructure to unlock more capital

Unlocking institutional debt capital in climate requires risk transfer infrastructure built to price and allocate risk out of the capital stack



*“Investment grade (IG) private credit is a big focus for us, and **I can see that risk transfer may accelerate the unlocking of climate assets** for private IG”*

*“75% of our portfolio needs to be senior secured; I never thought I would get climate finance into that, but **I see how risk transfer could actually enable that**”*



*“Traditional insurance lacks the creativity or 10-year data set for their compliance departments to allow them to do risk transfer, even though the analytical capability is out there to do the underwriting. **The ability to fund risk transfer wraps in the first few years would be transformational**”*

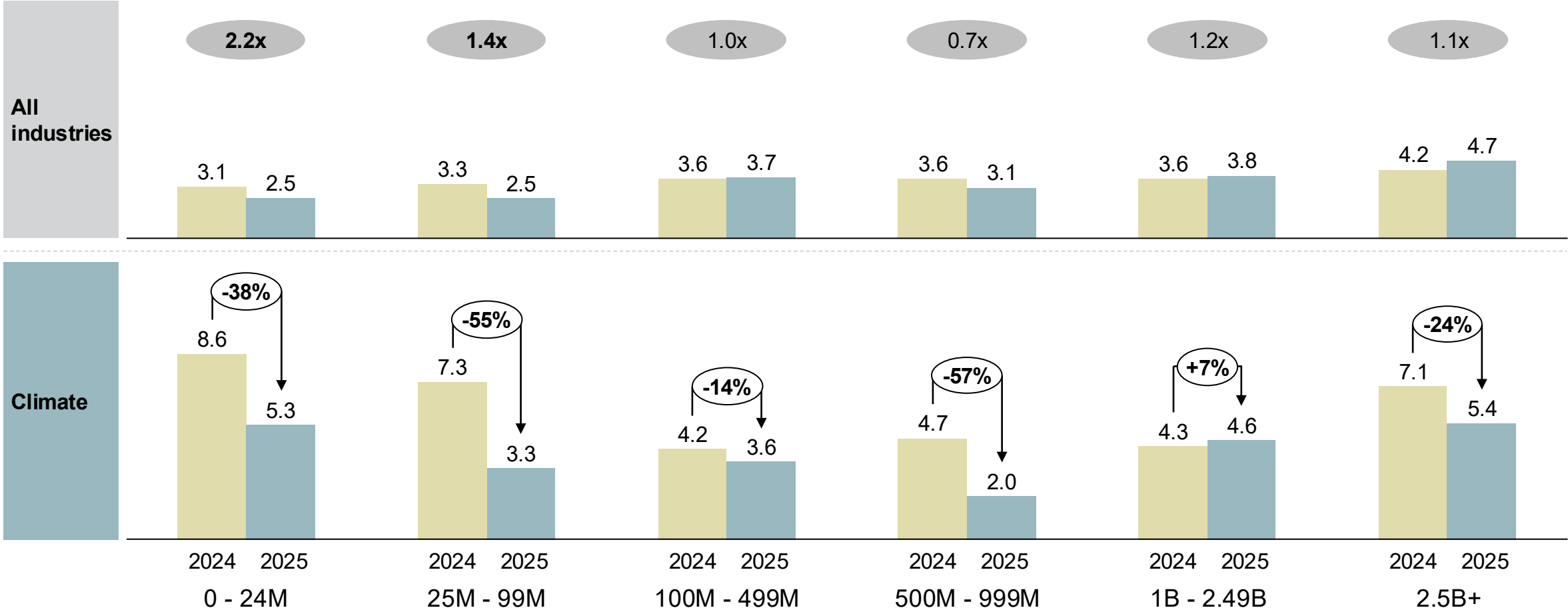
*“If you get the risk transfer right, **there is a huge amount of capital that could be unlocked for climate**”*

5. Continue disciplined investment, particularly in early stages

Valuation multiples across deal sizes

Post-money valuation/revenue median

X Climate vs. overall market multiple, 2025



Note: Combined dataset of PitchBook and CREO data, excludes <\$3m and cancelled / failed deals, debt refinancing & restructuring, bankruptcy; PitchBook climate deals identified via vertical and manually verified by company

Source: PitchBook, CREO Data Platform, CREO Analysis



CREO is a not-for-profit organization with a mission to mobilize and catalyze high-impact capital that drives the necessary transition to a low-carbon, sustainable, and prosperous future for all. CREO has built and currently convenes a membership consisting of the largest community of active family offices and family foundations investing in climate, globally with about 200 members across 30+ countries. We facilitate investment by helping our members build knowledge and confidence via shared insights, research, and programming that focuses on the question of 'how' to invest in climate solutions and the decarbonization transition.



Featherlight Capital is a private investment firm that anchors the next generation of specialist fund managers. It helps investor-entrepreneurs launch and scale institutional-quality private equity firms by providing large-scale anchor capital, strategic advice and operational support, with a current focus on managers investing in the climate-driven transformation of the economy in North America and Europe. Featherlight has offices in New York, London and Montreal, and its team brings experience from large pension and sovereign funds, family offices and private investment firms.

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