3

Investment Spotlights

As markets and economies continue to adjust to the post-pandemic world of higher borrowing rates and geopolitical risks, we synthesise the most important macroeconomic changes into the following 'investment spotlights' that we believe will take centre stage of shaping investor returns in the decade ahead:

1. **Investing in Global Equities:** What is needed to deliver sustainable outperformance?
2. **The future of Private Equity:** Investment approach to buyouts in a high-interest rate environment.
3. **Energy Transition Investment Framework 2.0 Outline:** At an expected annual cost of $5 trillion per year for the next 27 years, the global energy transition will have a meaningful impact on most asset classes.

Against this backdrop, successful portfolios will need to place even higher consideration on asset quality, valuation and portfolio construction.

Investing in Long Equities:
What is needed to deliver sustainable outperformance in this asset class?

We have long known that public equity markets are a challenging asset class for alpha generation. Stock markets are easy for anyone to invest in, and disclosure rules provide for democratised access to information. Public equity markets are by definition a zero-sum alpha game, with an equal dollar amount of outperformance and underperformance in the aggregate market. While there are many ways for investors to try to generate an informational or analytical advantage, the crowded universe of active, profit-maximising investors means that these advantages are constantly at risk of being competed away.

For Long Equities, investors can easily access 'passive' exposure to global equity markets at cheap fees. The question of whether one should give up on trying to outperform the market and just 'go passive' is a recurring one, especially after periods of underperformance like the one that we and other endowment-style investors have experienced over the past few years.

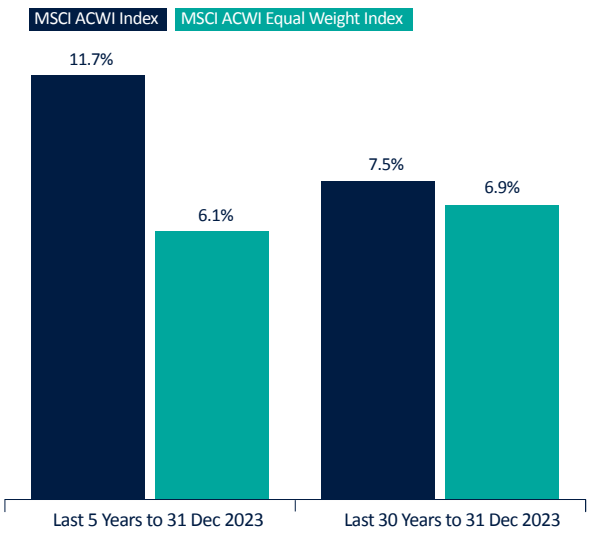
The disappointing results in the asset class over the last few years have prompted us to dig deep to learn lessons from this period. We do not believe that shifting to investing only passively in Long Equities is the right decision for our clients. Based on our review over the last 18 months we have identified a number of adjustments to our investment approach, the most important of which are:

1. While over the very long term, the volatility of alpha does not matter, it can significantly affect outcomes over meaningful time periods (e.g. three to five years). We need to explicitly budget for this and build portfolios that meet our outperformance targets with lower volatility.
2. Increase focus on sourcing managers that provide more stability in their alpha streams and grow their allocation in portfolios.
3. Focus more on the risk-contribution at the individual manager level, which has resulted in smaller positions in high-risk specialist managers.
4. For specialists operating in niche areas, more explicitly assess the factor and sector skews they introduce in portfolios.

Before discussing each of the above points in more detail, it is important to note the context within which active equity managers have had to operate over the last few years.

The last five years have been characterised by the dominance of large-cap equities. This is best illustrated by the difference in performance of capital-weighted stock indices and equal-weighted stock indices.

Exhibit 1
Capitalisation-weighted stock indices have experienced a period of unusual outperformance over equal-weighted indices



Source: *Bloomberg*

Since many active Long Equities managers do not construct their portfolios relative to capital-weighted indices and may even focus on finding smaller companies that are not as well followed, this phenomenon has been a headwind to generating outperformance over the last few years. It is important to note that, as shown in Exhibit 1, this phenomenon has historically not persisted. Over the long term, we expect the recent outperformance of large-cap companies to mean-revert but we have to acknowledge that over the short to medium term, there can be periods of significant performance difference between large and small companies.

We state the above not to provide ourselves with an excuse about the difficult environment, but simply to ensure that our learning is rigorous and takes account of externalities.

Defining our Four-Step Investment Approach for Long Equities.

Mirroring our approach to overall portfolio construction, Partners Capital follows a four-step approach to building Long Equities portfolios:

1. **Risk/Return Expectations:** Set outperformance expectations in the context of the risk that needs to be taken to achieve these objectives.
2. **Manager Selection:** Pick the right managers who we believe have the ability to outperform.
3. **Portfolio Construction:** Construct a robust portfolio that is well diversified across strategies.
4. **Risk Management:** Measure risk across different dimensions and ensure the portfolio is resilient across multiple environments.

We now go into each of these steps in more detail and discuss our learnings and changes in each of these.

Step 1: Risk/Return Expectations

The difficulty of generating alpha in Long Equities outlined at the beginning of this article is reflected in performance data for the active Long Equity industry. If we look at rolling five-year performance in a database of active global equities managers[1] going back to 2007, we find that the average outperformance net of fees of the median manager was just 0.5%, a number that falls to almost 0% over the last five years. However, just because the average manager does not generate alpha does not mean that no manager consistently does. In order to generate an average alpha over 1%, allocators would have had to find managers in the top 40% of the universe; to generate over 2% alpha, allocators would have had to find managers in the top 30%. These consistent outperformers are more prevalent within certain manager strategies and approaches. And there is the potential to increase returns by shifting capital among managers within that 15+ year period.

We continue to believe that we can achieve +1% p.a. outperformance in Long Equities over the long term. While lower than the alpha we target in other parts of our portfolio, including Absolute Return and Hedged Equities in liquid markets, we realise that the compounded gains of this alpha, especially in lower-returning equity market periods, can be substantial. Further, the significant size of the allocation to Long Equities within our overall portfolios makes modest levels of annualised alpha generation meaningful to a client portfolio's overall alpha.

At the same time, we have to acknowledge that the goal of generating outperformance cannot be achieved without risk. We define risk in this instance as the volatility of the outperformance over time. We are acutely aware of the potential negative impact of high variability in relative performance, even over multi-year periods. While we need to take active risk to generate alpha in our investments, we have taken steps to 1) increase the quality and stability of alpha generation in our investments and 2) reduce our overall active risk (otherwise known as "tracking error" or "alpha volatility") at the portfolio level, especially that risk attributable to style factors and other systemic drivers.

Exhibit 2 below shows the meaningful impact that achieving +1% annualised outperformance over global equity markets has on the total value of a portfolio over ten years. However, as we show in the different scenarios, achieving this target with a tracking error of 3.3% instead of 5.0% greatly reduces the risk of meaningful underperformance over shorter periods of time. The additional risk required to target higher levels of alpha on the other hand would come with a significant increase in the risk of underperformance over shorter, but still meaningful, periods of time.

Hypothetical return expectations are based on simulations with forward looking assumptions, which have inherent limitations. Such forecasts are not a reliable indicator of future performance. Past performance is not indicative of future results, your capital is at risk and you may not get back the full amount you invested.

1 eVestment universe of Global Equities managers.

Exhibit 2

Different long-term risk/return targets for portfolios lead to different probabilities of outcome over the short to medium term

	Active Equities			Passive
	Inefficient implementation	Improved risk/reward	Higher return/ higher risk	
Active return – Target outperformance over global equities (net of manager fees)	1.0%	1.0%	2.0%	-0.1%
Active risk – Expected annualised standard deviation of active return	5.0%	3.3%	6.7%	0.0%
Risk-Adjusted Return – Expected information ratio (active return/ active risk)	0.20	0.30	0.30	n/m
Long-term Value– Expected value of $100 in 10 years (at 0.8% p.a equity beta forecast plus above)	$237	$237	$259	$214
Short-term Drawdown Risk – Probability of alpha <-5% in one year	11.5%	3.5%	14.7%	0.0%
Medium-term Underperformance Risk – Probability of ann. alpha <-3% over 3 years	8.7%	2.0%	9.9%	0.0%
Long-term Underperformance Risk – Probability of ann. alpha <-1% over 10 years	10.3%	2.8%	6.8%	0.0%

Source: *Partners Capital Analysis*

Hypothetical return expectations are based on simulations with forward looking assumptions, which have inherent limitations. Such forecasts are not a reliable indicator of future performance.

As an allocator to external managers, we have two main ways to increase our target level of outperformance relative to the amount of active risk we take: 1) Look to identify managers who individually are able to generate more stable outperformance. 2) Take advantage of the diversification benefits from allocating across different managers. In both areas, we have continued to evolve our approach.

Step 2: Manager Selection

We have maintained several foundational principles of our Long Equities manager selection, including:

1) Focus on stock selection as the main driver of sustainable outperformance. Our experience suggests that market timing, sector rotation or factor timing are not reliable sources of risk-adjusted returns.

2) Partner with managers possessing differentiated research capabilities and expertise in their strategy area.

3) Look for a disciplined process for investment diligence and portfolio management as a requirement for sustainable outperformance.

4) Emphasise strong alignment with investors, both in terms of fees and internal incentive structures.

However, to complement our existing lineup of traditional generalist and specialist managers who we believe are best-in-class in their areas, we have spent time defining the characteristics of Long Equities managers that we believe can deliver meaningful alpha with low tracking error (a high so-called 'information ratio'). These manager strategies need to have both a robust 'alpha engine' and strong risk-management capabilities. We view the key characteristics of these strategies as:

a) **Express stock views relative to a broad benchmark:** Managers who aim to deliver alpha with a high information ratio must express their stock-specific views relative to the passive index that they seek to outperform. Very few Long Equities managers invest in this way. Many managers spend significant time on fundamental company analysis. Based on primary research, they form a prediction of a company's revenue trajectory and future margin profile to forecast future earnings or cash flows. They then translate these forecasts into a price target, considering the current capital market environment and a firm's growth prospects and risks relative to the market and peers. However, most managers then make their position sizing decisions on an absolute basis based on simple heuristics of base case return or upside potential vs. downside risk. For most managers, the size of a position in their benchmark is only considered as a minor factor, if at all. They would, for example, size a position at 3% based on conviction, regardless of whether this stock is a 5% or 0.5% position in their benchmark.

This approach has several consequences: 1) The manager could inadvertently hold a smaller position than their benchmark in a stock they have a lot of conviction in. If they are correct in their view, they will paradoxically generate negative alpha from the underweight; 2) They could not own a stock to express neutral view on a company but effectively be betting that the stock will underperform; and 3) They will generally have a smaller company bias in their portfolio relative to their benchmark. While this traditional approach to portfolio management can successfully generate alpha over the long term and has a place in portfolios, it is not set up to generate stable alpha with low tracking error. This objective requires the manager to think about position sizing in a relative way: Companies that the manager has a positive view on will be sized larger than in the benchmark. Positions where the manager has no view should be held at roughly the same size they are in the benchmark. And not owning a company (or even having an underweight position in it) signifies a negative view.

b) **Invest in a diversified portfolio that nevertheless significantly deviates from the benchmark:** High information-ratio strategies must diversify their risk across many individual holdings. There are two main reasons for this: a) By increasing the number of positions, managers increase the number of explicit investment views they express. A concentrated portfolio takes a small number of explicit risks and a large number of implicit risks. b) Managers know that they don't have perfect foresight. If a stock picker is correct in their views 55% of the time ('correct' meaning that they correctly call the benchmark-relative return of a stock), they want to increase the number of at-bats (taking a benchmark-relative position) to reduce randomness in their results and isolate the impact of their positive skill.

c) **Explicitly manage beta and tracking error:** An extension of thinking about position sizes relative to the benchmark is that managers also emphasise other benchmark-relative risk metrics. While for many fundamental managers the predicted beta of their portfolio is largely an outcome of their selection and it (and as a result also the realised beta of the portfolio) can therefore vary in relatively wide ranges, these managers place a bigger emphasis on managing a portfolio with a predicted beta of close to 1. While predicted and realised betas can always diverge, this typically results in a realised beta that is more stable around 1. Similarly, many active managers see tracking errors primarily as an outcome of their stock selection process rather than a target or constraint for their portfolio construction approach. This can lead to varying degrees of benchmark-relative risk over time that is not explicit (the manager does not necessarily have higher conviction in their stock picks during times they express a higher expected tracking error in their portfolio). Managers who look to efficiently translate active risk into active returns typically look to keep predicted tracking error in a defined range in order to achieve a more even level of risk-taking over time.

d) **Focus on idiosyncratic risk:** Managers who try to efficiently translate active risk into active return are typically very literate in factor risk models. They are aware that diversified portfolios can have a significant share of their risk contributed by exposure to common factors. These factors might have positive expected returns associated with them, but can come with significant volatility. Managers therefore look to limit their exposure to them so that returns are mainly driven by intentional stock selection decisions rather than factor moves.

We have found that this specification narrows the universe of managers substantially. The characteristics outlined above require significant resources or innovative approaches to generate investment signals on a large number of stocks and construct a well risk-managed portfolio. Some managers also have a philosophical aversion to this approach, as they believe that only concentrated portfolios can generate meaningful outperformance over time, and benchmark-relative volatility over time should not be considered an appropriate measure of risk. While we see some merit in this argument, we have found that the excess returns of many managers of this format do not stand up to their expectations over the long term, and periods of significant drawdowns (absolute or relative) make it harder for allocators to maintain their conviction, and their allocation, in the manager.

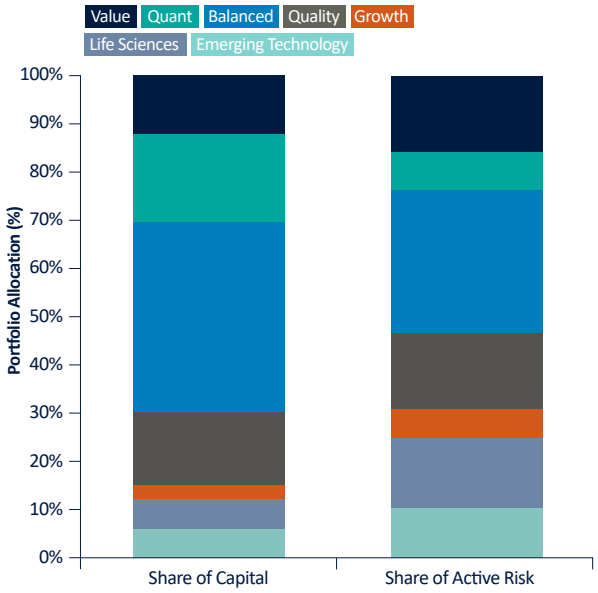
This does not mean that we are looking to completely move away from traditional generalist strategies that do not fit this specification. We believe that for some strategies concentration can be an advantage to long-term alpha generation. For example, strategies that are predicated on the active engagement of the manager with

portfolio companies to improve business strategy, capital allocation or capital structure are very time consuming and likely more successful when implemented in a concentrated portfolio. We have also observed that strategies that manage their risk relative to a benchmark can exhibit higher levels of turnover as they look to take profits on winners to avoid taking on too much exposure to a momentum reversal. This can provide diversification benefits from allocating to managers that take a truly long-term three to five year investment horizon and hold on to positions through volatility.

We also continue to believe that allocations to specialist managers can help improve the potential of portfolios to generate alpha. We define specialists as managers that invest in a specific niche of the market and prefer those who invest in areas characterised by wide stock dispersion and high levels of complexity that require domain expertise. On average, we expect that specialists are able to translate their advantages of investing as a domain expert in an opportunity set that is attractive for alpha generation into higher alpha than the average generalist. However, the alpha performance stream of most specialists also tends to be more volatile than the alpha.

Exhibit 3

Looking at portfolio diversification both in terms of capital allocation and risk contribution shows that small capital allocations can be meaningful risk contributors



Source: *Partners Capital Analysis*

Step 3: Portfolio Construction

When constructing portfolios of different managers, we then need to focus on the second lever at our disposal to increase the expected stability of outperformance, which is to leverage diversification benefits.

We believe that the key metric to consider when constructing well-diversified portfolios is individual managers' contribution to the portfolio's overall active risk. We have increased our focus on this metric as the key driver for position sizing.

We want to avoid portfolios where our overall active risk is dominated by an individual manager or a group of managers who operate in similar areas. Looking at a portfolio through this lens as shown in Exhibit 3 shows that what may appear to be small positions in terms of capital are actually meaningful contributors to portfolio risk.

To be able to look at the portfolio through this lens we need to formulate expectations of the future active risk of individual managers, and how that active risk is expected to be correlated among managers. We need to be conscious of the uncertainty around these estimates, which is why we do not consider this exercise as optimisation or targeting specific levels, but rather ensuring diversification within appropriate ranges.

The resulting portfolio is one with a significant allocation to the managers that we expect to most efficiently translate active risk into active return. Given the relatively moderate active risk of these strategies, they should be expected to become some of the larger positions in our portfolio over time. These allocations are then supplemented with traditional generalists that contribute diversifying alpha streams, which can be due to a longer time horizon, active engagement, or a focus on executing a specific investment style. Specialist managers continue to play a role in portfolios, but at a smaller size that appropriately reflects the high level of risk these strategies contribute even at smaller capital allocations.

Step 4: Risk Management

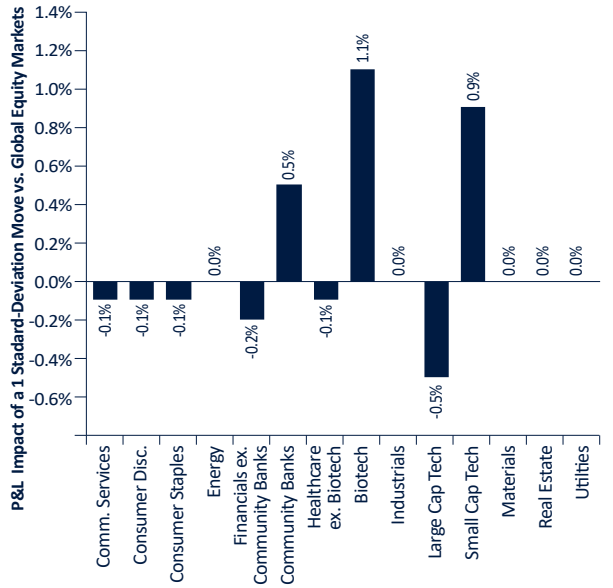
Recognising the importance of a multi-faceted approach to risk management, we want to ensure that our portfolios are not just balanced in terms of risk contributions from individual managers. We also monitor a portfolio's relative exposure to sectors and geographies as well as style factor exposures. To do so, we leverage the transparency into the portfolios of our individual managers to evaluate the total look-through exposure of a portfolio of managers (see Exhibit 4). By comparing the result to the composition of overall global equity markets, we can assess the relative risks of a portfolio.

We have become more focused on assessing the risk we take in portfolios that comes from allocating to specialist managers. Mapping individual managers onto the benchmark indices that most closely represent their relevant investment universes allows us to identify, quantify and stress test the most important thematic skews in our portfolios.

As noted above, we continue to believe that specialist managers investing in specific areas of the market such as life sciences or emerging technology companies can generate attractive levels of alpha over time. These strategies also require investors to take a longer time horizon due to their elevated volatility and we continue to believe that it is very hard to add value from timing exposure to these strategies. That being said, we have introduced closer monitoring of the risk contributed by the skews these strategies introduce into portfolios. We are also conducting a more detailed ongoing assessment of the market environments that are most conducive for these strategies. Our goal is that this closer monitoring will allow us to be more successful in determining when the market environment for certain specialists has reached extreme levels, either positive or negative. At these points we want to ensure that we are comfortable with how much risk is contributed by these managers and, if appropriate, modulate our exposures within the ranges we believe to be appropriate over the long term.

Exhibit 4

Stress testing performance impact of sector skews introduced by investing in specialist managers



Source: *Bloomberg*

Hypothetical return expectations are based on simulations with forward looking assumptions, which have inherent limitations. Such forecasts are not a reliable indicator of future performance.

The future of Private Equity: Investment approach to buyouts in a high-rates environment?

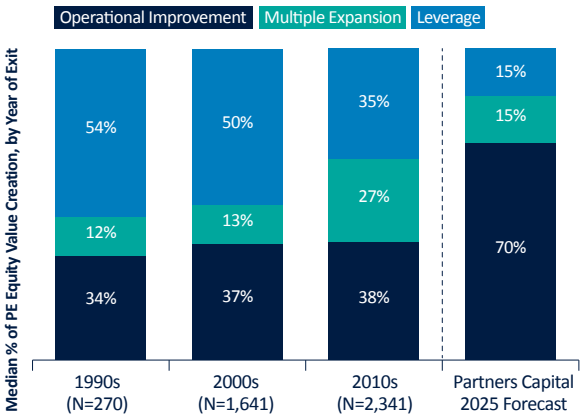
Even before the increase in interest rates that began in 2022, we believed that Private Equity returns would compress due to elevated purchase price multiples driven by competition for deal flow. What had not been included in our prior view was an abrupt end to low interest rates and a sharp spike in inflation. Absent of any changes in valuations or to earnings growth, we believe the increase in interest rates and reduced debt availability reduce the net IRR of a buyout by c. 3-3.5%. But all else is not equal, and we believe purchase price multiples have already declined by c. 18% (from 13.3x EBITDA in 2021 to 10.9x EBITDA in 2023) and will continue to decline, improving prospective returns.[1] We do expect that the combination of higher rates and multiple compression will reduce future returns for deals executed in 2021 and 2022.

The basic buyout return drivers consist of three components: earnings growth (revenue growth and margin expansion), multiple expansion (growth in purchase price multiple from entry to exit), and leverage (the quantum and pricing of debt financing). As shown in Exhibit 1, in the post-GFC era, multiple expansion and leverage accounted for c. 62% of equity value growth.

We expect that the higher interest rate environment will dampen the contribution of leverage to returns for private equity, and that the rate of multiple expansion will decline to the levels observed in the 1990s and 2000s. In a world where leverage is a less meaningful component of returns and where exit multiples are 'range bound', we believe private equity firms will need to rely on a combination of higher earnings growth and lower entry purchase prices to drive PE returns in line with those of prior vintages. With increased competition and potential difficulties enacting operational improvements to the benefit of earnings within companies with $500M+ of enterprise value, as shown in Exhibit 2, we expect that many large cap buyout managers will struggle to generate a sufficient premium over public equity returns.

Exhibit 1

The future of Private Equity is all about operational improvement



Source: *Partners Capital Analysis of Bain Deal Edge*

In response to this new market environment, we focus even more acutely on sponsors whom we believe are best positioned to generate outperformance in the years ahead: teams with a lower middle market focus, sector specialists, and teams with dedicated operating resources. We deliberately target teams that possess a combination of these attributes. We are particularly excited, for example, about (1) sector specialists in high growth sectors such as software and healthcare with differentiated post-acquisition operational value add (PAOVA) capabilities and (2) lower middle market generalists focused on value-oriented deals with dedicated operating resources. We believe that private equity firms with such characteristics are best positioned to acquire companies at discounts to intrinsic value (through sourcing, deal complexity, corporate carve-outs and other capabilities) and to drive incremental earnings growth in their portfolio companies through strategic and operational engagement.

1 Pitchbook Data Inc.

We continue to believe that private equity will outperform public equities over the long term given private equity's superior governance model and long-term investment horizon. Nevertheless, we believe that the quantum of private equity outperformance will be smaller than the +6.5% premium generated over public equities during the past decade[2] given the interest rate environment and lower probability that valuation uplifts will drive returns to the same degree as they have over the last 15 years. Given this market shift, we are laser focused on manager selection, identifying the teams best positioned to grow earnings at their portfolio companies, as a 2% increase in EBITDA growth drives a c. 2.5% per annum increase to the net IRR of a typical buyout. For the last c. 40 years, the top quartile of private equity managers have outperformed the average returns of the industry by 5-9% per annum as shown in Exhibit 3. We believe that the managers with the most effective earning enhancing operational improvement process will be those that comprise the upper quartiles in the coming years.

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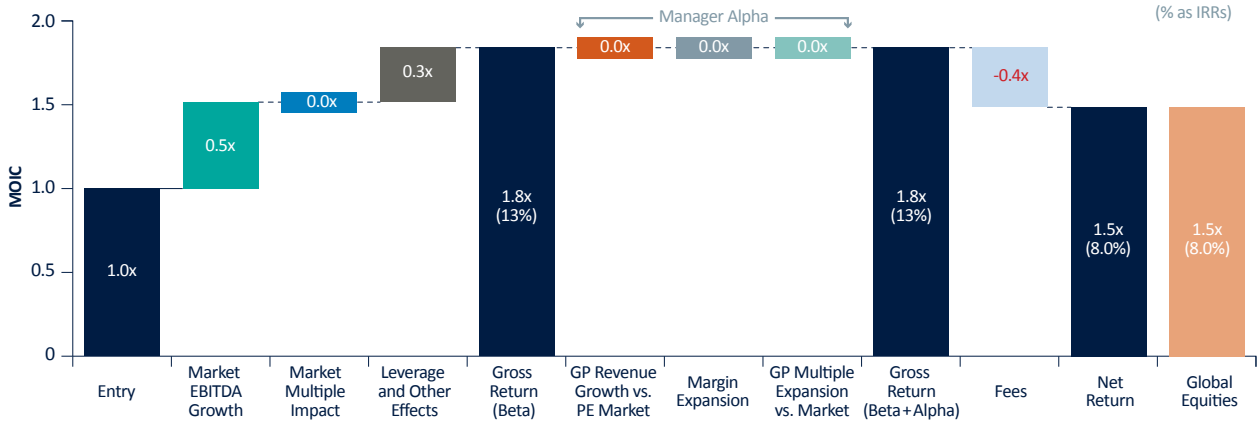
Lower Middle Market Buyouts

The lower middle market is comprised of businesses with less than $125M of Total Enterprise Value ("TEV"). The lower middle market encompasses over 200,000 businesses in the U.S. alone relative to less than 10,000 US businesses with TEV greater than $500M (the "Large Market"). We believe the following underlying attributes make the lower middle market an attractive segment for private equity investment: (i) lack of institutionalised ownership and/or professional management, (ii) fragmented market dynamics where sponsors can profit from driving consolidation, and (iii) limited access to capital markets to invest in growth initiatives[3]. We believe these factors translate to less competition to acquire such businesses, lower purchase price multiples, and a greater opportunity for operationally intensive value creation.

Both third party research and the anecdotal evidence from our portfolio suggests that the earnings growth of middle market businesses owned by private equity firms is meaningfully higher than public markets (200-400bps per annum). We believe the enactment of operational improvements is of particular importance in the current environment of higher inflation, higher interest costs, inflationary driven cost pressure and ever greater urgency to improve the use of technology[4].

Exhibit 2

Without additional manager alpha, large cap PE is unlikely to generate a significant premium over equities



Notes: *Chart assumes 11x entry multiple, 11x EBITDA multiple, 5x leverage, 6% EBITDA CAGR, 12% cost od debt. Fees are 1.5% on committed capital, then on invested capital. 20% carry. The above example is illustrative in nature and is not tied to actual investment made.*

Source: *Partners Capital Analysis*

Hypothetical return expectations are based on simulations with forward looking assumptions, which have inherent limitations. Such forecasts are not a reliable indicator of future performance.

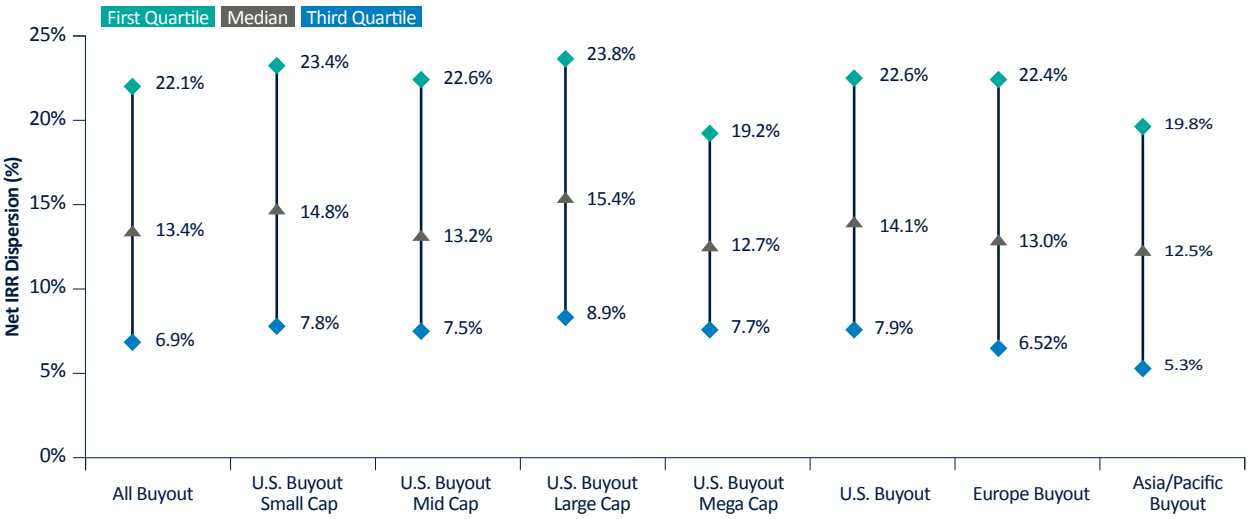
2 Cambridge Associates Private Equity Index vs MSCI ACWI as of 30 September 2023.

3 Source: JP Morgan and Next Street. Exploring the Diverse Middle Market Business Landscape. 2023. Market sizing data from Grata. Sample includes 215,602 businesses with revenue above $10M.

4 Source: Bain DealEdge; includes all realised and partially realised deals from 2000 to 2020.

Exhibit 3

Buyouts is principally an alpha asset class



Source: *Cambridge Net IRR*

Sector Specialist Buyouts

We believe that sector specialists are better positioned to outperform generalist managers given domain knowledge that informs all stages of the investment process. We believe specialists have deeper industry expertise that creates clear competitive advantages across the PE process lifecycle: granular, thematic approaches to ideation and sourcing, enhanced 'pattern recognition' in due diligence and value creation, and ability to attract management teams and operating resources that would generally not be practical within most generalist funds.

We are focusing our manager sourcing on specialists in the sectors with the greatest potential for outsized growth and where the benefits of domain knowledge are greatest, including healthcare, technology and business services. We believe that these specific sectors benefit from attractive secular growth characteristics while also containing many companies where sponsors can drive outsized earnings growth. Data suggests these sectors generate +2.4% higher median per annum revenue growth and +3.6% higher top quartile per annum revenue growth for PE-backed businesses across these verticals[5].

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Operating Resources

We believe the current macroeconomic environment advantages the portfolio group model for value creation, which we define as firms with dedicated internal consultancy or a function-based operating group to support value creation initiatives across portfolio companies. We see this model as particularly accretive in lower middle market and sector specialist sponsors discussed above. We believe the portfolio group model constitutes only a small sub-set of the private equity landscape, just 18% of firms within one sample[6]. Moreover, 27% of firms have no dedicated operating resources at all while 55% of funds have operating partner-driven PAOVA which we view to be less scalable and less repeatable than the portfolio group approach.[7] In contrast, 88% of buyout managers approved by Partners Capital from 2022-2023 had either an internal consultancy or function-based portfolio group. In our view, as shown in Exhibit 4 there is already a significant performance edge (c. 0.44x MOIC, which we believe translates to a c. 5% higher net IRR, assuming a five-year deal holding period) between funds with dedicated internal or external operating resources versus those where value creation initiatives are primarily spearheaded by deal team members[8]. This underscores the importance of building partnerships with the subset of managers who differentiate themselves through well-resourced and well-aligned operating teams.

5 Bain DealEdge – includes all realised and partially realised buyout deals since 2010.

The investment approach to Venture Capital in a high-rates environment

The higher interest rate environment also has a profound impact on the venture capital industry. The sharp increase in rates in 2022 prompted significant adjustments in how investors assess the value of high-growth and unprofitable companies, which has repriced venture backed businesses in recent funding rounds down from 0% to as much as -65%, with the bigger discounts generally in later-stage companies. There has also been a precipitous decline in investor demand for riskier assets, contrasting the peak levels observed in 2021. Consequently, many of the strategies employed by investors during the low-interest-rate environment, which relied on market momentum and the availability of funding, are no longer positioned for success.

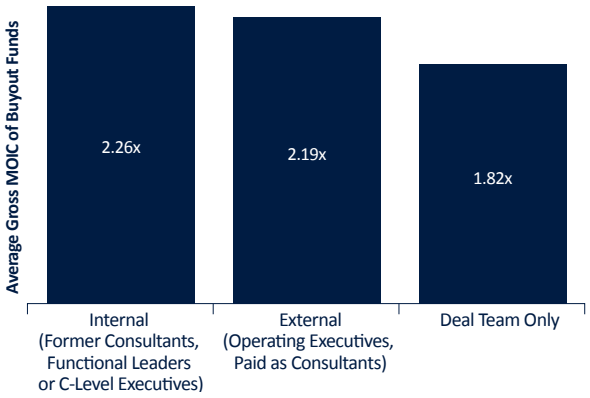
Against this backdrop, we continue to increase our exposure to early-stage specialists. We believe that these managers are well-positioned to outperform in the coming years, due to their smaller fund sizes, earlier entry point in companies' lifecycle and lower sensitivity to the public markets valuation environment. Smaller fund sizes render these managers less dependent on inflated valuation multiples and multi-billion-dollar outcomes to attain their target returns. And, while not entirely insulated from changes in interest rates, early-stage investment returns are influenced more by the success of the underlying businesses than by short-term valuation changes. We do expect early-stage startups to encounter a more challenging funding environment in the coming years due to the decline in capital availability. As a result, we expect some compression in startup valuations for early-stage funding rounds and an increase in the historically low loss rates observed among early-stage funds in recent years. We believe this will lead to greater return dispersion among investors, and we have directed the majority of our early-stage allocation towards investors who have demonstrated their ability to generate returns without solely relying on the tailwinds of recent years.

We are de-emphasising late-stage investment strategies, particularly ones that concentrate on funding rounds which precede exit events, commonly referred to as "crossover" investors, and do not benefit from inherent information or access advantages. We expect continued pricing pressure in this segment of the market in the near term. We also expect heightened interest rate volatility and more frequent boom-and-bust cycles in the years to come, which will present challenges for investors seeking to price late-stage assets a round before their public market debut. Crossover investors also face limited options when investments fall short of underwriting expectations, given their limited influence at the board level and lack of operational capabilities.

Finally, we continue to concentrate our remaining exposure with established multi-stage investment platforms. We favor investors with the balance sheet and resources to support startups through more turbulent times. Investors at these platforms leverage institutional knowledge that predates the zero-interest rate policy environment. This provides them with a distinct advantage over newcomers, many of whom lack experience advising founders on the key issues they face today, such as how to achieve efficient growth or navigate a recapitalisation. We are mindful that many of these multi-stage platforms have scaled through the last market cycle, and we are currently prioritising managers who are actively taking measures to better align their fund sizes, investment timelines, and strategy mix with the current market realities.

Exhibit 4

Teams with internal operating teams generate c. 5% higher IRRss



Source: *AlpInvest*

Past performance is not indicative of future returns, your capital is at risk and you may not get back the full amount invested.

6 AlpInvest, From Financial to Operational Engineering: Organisational Aspects, November 2021; Sample includes 3,949 deals from 212 buyout and distressed debt funds raised between 2004 and 2015.

7 Ibid.

8 Ibid.

Energy Transition Investment Framework 2.0 Outline

At an expected annual cost of $5T per year for the next 27 years, we believe the global energy transition will have a meaningful impact on most asset classes. We believe that at least 50% of all companies, public and private, will be materially affected (defined as a >50% impact on profitability). No investor can ignore its impact which explains Partners Capital's investment in building deep domain expertise on the energy transition. Our Energy Transition investment strategy focuses on three goals:

1) **The Partners Capital investment team will have as clear an understanding as possible of what is most likely to transpire economically on the pathway to net-zero in 2050. External partnerships with Bain & Company and other deep experts reinforce our expertise.**
2) **Ensure our managers understand this pathway and encourage them to use it as a lens.**
3) **Allocate client capital with great caution to those asset managers who have demonstrated an ability to generate significant investment outperformance from deep insights into the Energy Transition.**

Our specific focus within public and private equity is on identifying and backing the biggest decarbonisers who we view as the most progressive leaders in their respective industries in migrating their companies from "brown to green." We believe this strategy has the potential to generate significant outperformance.

Introduction

Our Energy Transition Investment Framework forms a key part of our Sustainable Investing (SI) strategy, which has been a key theme now for five years at Partners Capital. We have evolved the scope of Sustainable Investing over these five years to focus on two core areas: the global energy transition and diversity, with activity concentrated on our ongoing manager engagement efforts to see ESG factors fully integrated into their investment processes, and making investments in the climate, healthcare and education sectors that we believe can have positive societal impacts.

Diversity (including both inclusion and equity) translates into a widening of our manager screening funnel to include a larger proportion of diverse asset managers. It also includes our manager engagement activities focused on their teams' diversity and the incorporation of diversity considerations into investment processes as managers examine and engage with their portfolio companies. For now, the primary focus of our SI activity is on the energy transition, and we will devote the remainder of this section to our progress in this area.

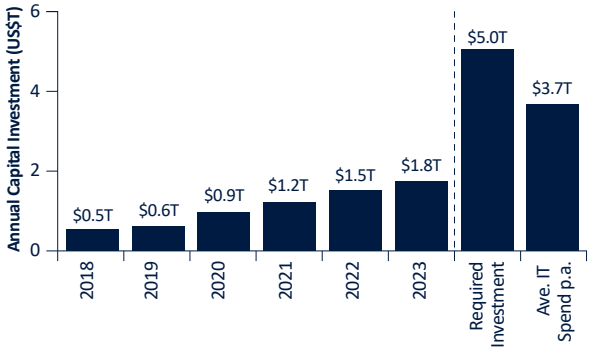
Overview of Energy Transition Investing

The energy transition is less of an investment theme than it is a major macroeconomic issue affecting the value of most financial assets today and in the future. At its broadest, energy transition investing involves understanding how asset values will be affected by the cost of carbon abatement, whether that is in the form of capital investments into lower carbon emitting processes or products, or the cost of anticipated carbon taxation. These considerations should affect the valuation of all assets classes and types, be they public or private companies, property, debt instruments

or commodities. Exhibit 1 shows the scale of overall investment in the energy transition with most estimates suggesting investments of $5T will be required per year on average out to 2050 (equivalent to c.5% of global GDP).

Exhibit 1

Recent energy transition investments are only a third of what is estimated to be required (c. $5T p.a.)



Source: *BloombergNEF for annual investment amounts. "Required Investment" represents the average of experts including BNEF, McKinsey, Goldman Sachs, IRENA and IEA which range from $3T to $7T per year.*

A narrower definition of energy transition investing focuses on finding active investment managers, primarily in public and private equity asset classes, who have deep energy transition domain expertise and who have demonstrated an ability to generate significant investment outperformance from this expertise. For most of the energy transition managers in which we have invested, a sustainability "lens" is not sufficient as the sole source of investment outperformance but is married with other fundamental research-based and value-adding investment skills that together we believe have the potential to generate significant outperformance.

Our definition of energy transition investing explicitly sets a high bar on the managers with whom we invest. There is no mandate for impact over returns. Every energy transition-focused manager has to stack up against our non-energy transition managers in terms of the expected long-term risk-adjusted performance.

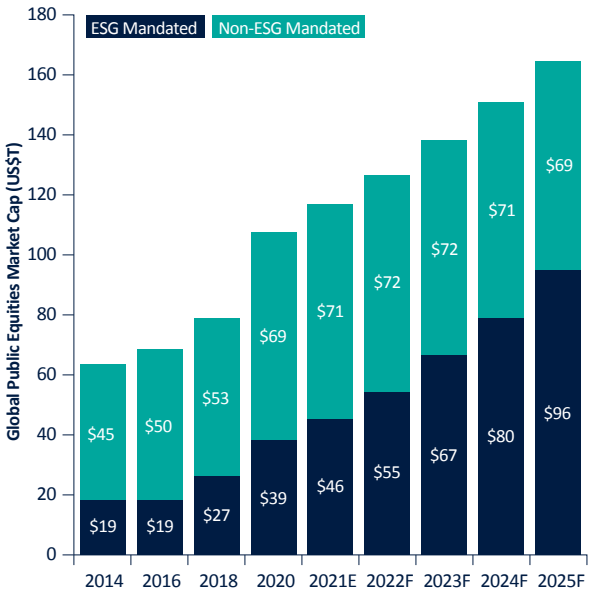
Companies tend to bifurcate into those that provide "solutions" to the energy transition or those that are the "improvers." Solutions companies include those who started "green" such as electric vehicle companies, renewable energy, and other technology developers such as batteries, clean hydrogen and carbon capture. Improvers are companies who started "brown" as major emitters, but who are most aggressively seeking to decarbonize their businesses to become so-called "brown-to-green" companies. This describes many electric utilities, industrials and transportation companies. Solutions companies today represent a relatively constrained universe of companies including Tesla, Vestas Wind, First Solar and Enphase Energy and account for less than 1% of the global equity market if you exclude Tesla (which is 1% by itself). This is in stark contrast to the brown-to-green sectors which account for approximately 40% of the total equity market.

Investment Industry's View on Energy Transition Investing

The Energy Transition has become political. Certain fossil-fuel dependent states in the US reacted against fossil-fuel excluding portfolios and banned those investment managers from their state pensions. We view the institutional investment world as divided between excluders and agnostics; the latter being those that will invest in every sector regardless of ESG characteristics.

Exhibit 2

ESG mandated assets are an increasing share of total public equity AUM



Note: *ESG mandated defined as professionally managed assets in which ESG issues are considered in selecting investments or shareholder resolutions are filed on ESG issues at publicly traded companies*

Source: *Deloitte*

What has changed in the last year is that there is an emerging view among institutional investors that excluding fossil fuels may be driving higher emissions. A Yale University study of 3,000 large companies completed in 2023 (Shue and

Hartzmark), concluded that fossil fuel exclusion is driving higher amounts of short-term investment into fossil fuels. So-called "brown" firms respond to increasing costs of capital by "front-loading" their activities with an associated increase in emissions.

We believe that over time both excluders and agnostics will migrate toward allocating capital towards those companies who will most successfully lead the transition in their respective sectors. For example, there are 60 public companies who account for 10 gigatons of CO2 emissions and have plans to reduce this by 4 gigatons by 2030 (the equivalent of ~8% of total global emissions),[1] by shifting capex and opex from high to low carbon businesses or processes. We argue that investors would be wise to back these winners as decarbonisation leaders gain market share from laggards in their sectors. We believe that by helping investors make this move, we will have a meaningful impact while generating attractive investment performance, and as such we are focused on evaluating asset managers who are pursuing this "brown-to-green" strategy.

The recent financial reporting regulations which require companies to publish validated long-term energy transition plans will go a long way toward reducing uncertainty for investors around which companies will lead on decarbonising their sectors, deploying strategies that enhance long-term shareholder value.

Given the pervasive impact that the energy transition will have on such a large proportion of the investment universe, we see no alternative for Partners Capital other than to carry on building our own internal domain expertise.[2] This expertise will be essential for any serious institutional investor in order to assess investment opportunities. We have captured our own expertise in research whitepapers including the Energy Transition Investment Framework (March 2022) and the Clean Hydrogen Investment Framework (February 2024).

The Energy Transition Pathway

We expect to publish our Energy Transition Investment Framework v2.0 by the end of Q1 2024, but we have summarized our initial conclusions from that paper below. We believe the many energy transition pathways being forecasted are heavily biased towards what **needs** to happen or what the research house **wants** to see happen. What we may want to see happen in terms of planetary decarbonisation is less relevant to us as investors than what we are most likely to **experience** with the pace and path of the energy transition.

There is one guiding light above all others that we trust to give us that insight and that is the fundamental economics of the energy transition. Governments cannot force an energy transition that economically cripples its industries, nor can it push energy prices and taxes to the extraordinary levels required to achieve net zero emissions by 2050. The economics cannot be ignored.

Approximately 50B tonnes of CO2 equivalent greenhouse gasses are emitted into the atmosphere each year, mostly from fossil fuel emissions. Approximately 140 countries have announced net-zero targets, covering approximately 90% of global emissions, with most committing to reducing emissions to zero by 2050.[3] As discussed above, the cost of this will be approximately $5T per year until 2050, mostly in the form of replacing the burning of fossil fuels used for power, transport and building heat, with renewable electricity (wind, solar, nuclear, hydroelectric, geothermal and biomass). $5T per year represents c.5% of global GDP and equates to a cost of $100 per tonne of CO2 abated, or an increase of up to $50/MWh in electricity cost (versus average global retail electricity prices today of $11/MWh).[4]

The $5T annual price tag shared by 8 billion people comes to $625/person or $2125/household. These are significant costs, highlighting that the largest single barrier to the energy transition is household affordability. The costs will very likely be shared progressively, meaning the wealthy will bear the bulk of the cost from either higher taxes or from higher energy prices for their higher energy usage. That being said, the greatest uncertainty to the pace and extent of global decarbonisation will be the will of governments, corporations and households in the face of reduced wealth. In developing markets, this will involve difficult trade-offs between reducing poverty or reducing

1 Bloomberg, Trium Capital, CDP and company stated targets
2 United Nations Net Zero Coalition
3 United Nations Net Zero Coalition
4 Partners Capital calculations

emissions. Given the bulk of emissions are concentrated in developing economies today, the greatest challenge will be in nations such as China, India and Indonesia, where we expect government commitments to wane in the face of the significant economic burden faced by their populations.

Companies are at the centre of the transition and are highly unlikely to make decarbonisation investment decisions that destroy shareholder value unless they are mandated to do so. Carbon taxation seems to be the key that will make it value accretive for management to make investments in lower carbon processes or products. The EU has legislated a phased tax regime from 2026 to 2034, co-incident with the imposition of carbon taxes on imported products that have not already been subject to carbon taxes from outside the EU (known as Carbon Border Adjustment Mechanism or "CBAM").

This simplified context for the cost of the energy transition highlights the high level of uncertainty surrounding the financial impact on asset prices. A University of Chicago research study (see August 2023 Science magazine) estimated the cost of corporations' carbon abatement amounted to 44% of shareholder value reduction on average, with some industries and companies not affected materially and others where greater than 100% of their value was lost to the cost of decarbonisation. The first question any investor in the energy transition needs to answer is whether they think they can confidently assess the winners and losers from this megatrend. It is our ambition to build up internal domain expertise, and to combine that expertise with investments in those asset managers who are poised to understand mispricings in what we believe is a highly inefficient part of the financial markets.

Our Energy Transition Investment Strategy and 2023 Progress

We believe, that virtually every one of our partner asset managers are investing in the energy transition, either knowingly or unknowingly, to the extent that the companies they own will all be forced to evolve their business models in the direction of lower greenhouse gas emissions in the years ahead. It is our job to help those asset managers appreciate and understand how any one of their investments is likely to be affected by the energy transition, and in some cases, for us to encourage these asset managers to engage with company management on how best to prepare for and exploit this megatrend to the benefit of their investors and the environment. We estimate that, on a capital weighted basis, 82% of the 190 active managers that responded to our Asset Manager ESG Integration Survey in 2023 fulfil our minimum requirements of firm wide ESG integration. This represents an increase from 75% in 2021.

We cannot be of any help to our managers unless we have an understanding ourselves of what the greatest challenges are to the global energy transition. To this end, in 2023, we continued to invest our own in-house domain expertise in the energy transition and sought ways to transfer this understanding to our asset managers through our research publications and day-to-day interactions with them. We are most impactful in our face-to-face engagements with our asset managers discussing the strategies of companies in their portfolios. In 2022 we published our Global Energy Transition Investment Framework and distributed that to all of our asset managers, we believe many of whom have made it mandatory reading for their research teams. In February of 2024, this publication was followed up with our Clean Hydrogen Investment Framework which painted a view of the many challenges facing clean hydrogen adoption. Both of these publications have been supported by the Clean Air Task Force as a critical input and peer reviewer. In addition, in 2023, we teamed up with the energy focused think-tank, OpenMinds, which is supported by a large library of Bain & Company research on the economics of the energy transition in key areas including hydrogen, carbon capture, renewables build-out, etc. These have been valuable additional sources of insight that we can take to our asset managers.

It is our belief that this megatrend will be led mostly by large, cash-rich public companies who have most to contribute toward decarbonisation in ways that are economically attractive in light of the most likely carbon taxation regime. There will also be private technology-driven solutions providers, but given the massive capital requirements, this is not a likely domain for traditional venture capitalists. Where venture capital is involved, many of those investments will require partnerships with large well-funded public companies or large sources of infrastructure finance. This underscores the need for us to pursue energy transition investments across both public and private equity. In Exhibit 3 we summarise the five areas of focus for our energy transition investment strategy.

Exhibit 3

Partners Capital Energy Transition Investment Focus

Asset Class	Strategy
Public Equities	**Energy Transition focused hedged equity managers** • Specialists with deep expertise in the sector investing in typically smaller companies among the enablers and solutions (eg, electrolyzers, solar, wind, EVs, carbon capture, charging infra.)
	Brown to Green "Improvers" -- Long-only • c. 40 company portfolio focused on largest decarbonisers from utilities, industrial and transport sectors. Long-term re-rating thesis.
Private Equity	**The "first 10%" of Energy Infrastructure Development (pre-construction)** • Participate in the massive infrastructure buildout including wind and solar, EV charging, battery storage, carbon capture and clean hydrogen. • Fund early-stage development to progress infrastructure projects from concept through to being "construction ready"; taking no significant technology risk, but commercial size scaling risk in some cases. This typically represents c. 10% or less of total project cost. • This phase entails value addition from project risk-mitigation including siting, securing land rights, permitting, contracting for grid connection, PPAs with electricity customers, debt financing and construction firm shortlisting. • Takes 5 years or more to complete and returns are derived from de-risking the project.
	Picks and Shovels (Software and Services) needed for the infrastructure build out • Less capital-intensive businesses who are supplying the large $5B/year investment in infrastructure including electricity, transport and industrial
	Climate Tech Venture Capital • Prefer "veteran" specialist managers with deep expertise on the likely economics of emerging technologies including battery storage, bioenergy, clean hydrogen, carbon capture, use and storage, geothermal, etc. • Prefer mid to late-stage investments but with managers who draw from early-stage portfolios.

Source: *Partners Capital*

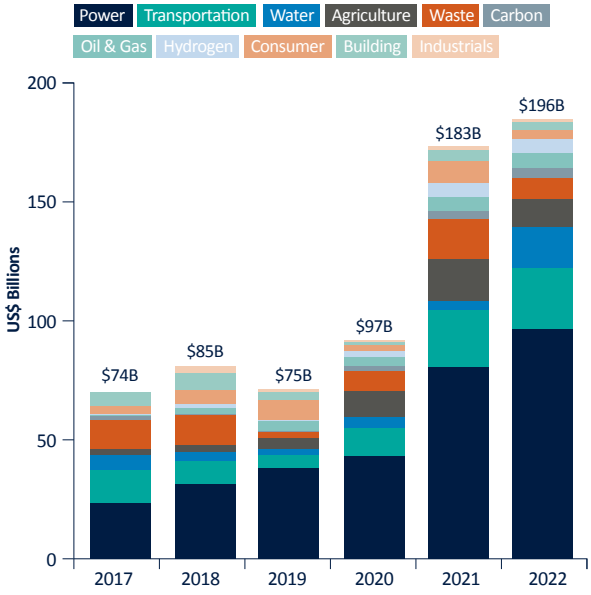
2023 was the toughest year yet for our public equity managers focused on the energy transition. Sector valuations have generally been a headwind for these managers, especially with the more recent sell-off in utility stocks and renewable energy names. Utilities sold off significantly due to their status as bond proxies amid rising rates and as investors feared that utilities may not be able to passthrough as much capital expenditure as expected through rate increases, given the political environment in the US in particular.

Our dedicated environmentally focused private equity strategy which was launched in 2021, is now approximately 75% deployed, having committed to six growth and buyout managers, two venture capital funds and two co-investments.

While almost all sectors of the private equity market have seen significant 2023 and 2024 declines in activity (fund raising, new investments and exits), the energy transition sectors are performing more robustly, albeit with some slowdown (Exhibit 4).

Exhibit 4

Private Markets Climate Tech investments include classic Venture Capital investments and highly capital intensive infrastructure



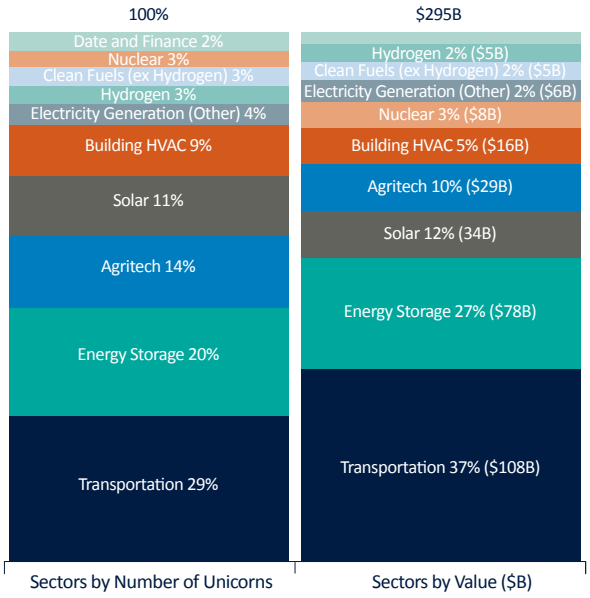
Source: *Pitchbook and Preqin (from McKinsey Global Private Markets Review 2023)*

Proof that Cleantech 2.0 (2020 onwards) is turning out very differently from 1.0 (2005-2015) is the observation that, in 2022, 7% of all new unicorns created were in the energy transition sectors, and in 2023, through September, 16 of the 68 (or 24%) newly minted unicorns were in the energy transition sectors. Today, per HolonIQ's database, there are precisely 100 energy transition unicorns (see Exhibit 5). Most are from four core sectors: electric vehicle transportation, energy storage/ batteries, solar and agritech. Wind and renewables other than solar do not feature prominently as these are typically classified as infrastructure investments, not venture investments. We also note the small showing of nuclear, hydrogen and carbon capture technology investments as successful unicorns. This is either a sign of the challenges to those technologies or it is simply too early to judge.

If we compare the universe of unicorns to the universe of all Venture Capital deals being done (by examining the portfolios of Breakthrough Energy Ventures and other similar specialist firms), we note that industrial decarbonisation deals and other electricity generation related startups do not seem to be making it to unicorn status. We suspect that industrial decarbonisation technology and electricity generation venture capital investments are more suited to partnerships with large corporate sponsors who bring both capital and industry knowledge.

Exhibit 5

Energy Transition Unicorns are concentrated in four sectors



Source: *HolonIQ*

In 2024, as one of Partners Capital's strategic priorities, we look forward to the publication of *Energy Transition Investment Framework v2.0* and new partnerships with leading public and private investors in both the brown-to-green improvers and the emerging solution providers behind the few technologies that would appear to have the greatest commercial potential in driving the global energy transition.