



Green Ash Horizon Fund

The Green Ash Horizon Fund aims to generate long-term capital growth through exposure to thematic megatrends in technology.

AUGUST 2025

CITYWIRE / A



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Investment Philosophy – We are in “The Great Acceleration”

- **We identify paradigm shifts in the technology of tomorrow** by closely following scientific research within academia and industry, and targeting megatrends in AI, digitalisation and the energy transition that will accelerate through technological and social developments
- **Our core focus centres on technologies with broad cross-industry impact**, such as artificial intelligence - foundational platforms that transform a wide range of sectors and create long-term secular growth opportunities
- **Our themes cover the full stack** from energy, to datacentre infrastructure, to the applications and products built on top. This allows us to combine exposure to the large, incumbent platforms that enable technological revolutions with the focused, nascent companies that pioneer them
- **We are an AI-first company**, having quickly adopted state-of-the-art models for research, analytics and workflow automation. This has helped to improve our dynamism, standardise our investment process and compress research cycles

¹ The Green Ash Horizon Strategy track record runs from 30/11/17 to 08/07/21. Fund performance is reported from 09/07/21 launch onwards (USD IA: LU2344660977). Strategy Track record based on managed account held at Interactive Brokers Group Inc. Performance calculated using Broadridge Paladyne Risk Management software. Performance has not been independently audited and is for illustrative purposes only. Past performance is no guarantee of current or future returns and you may consequently get back less than you invested.

Performance to 31st July 2025



| Strategy Performance ¹ | 2017 | 2018 | 2019 | 2020 | 2021 ¹ | 2022 | 2023 | 2024 | ITD | Annualised | Volatility | Sharpe |
|-----------------------------------|--------|---------|---------|---------|-------------------|---------|---------|---------|----------|------------|------------|--------|
| Green Ash Horizon Strategy | +2.02% | -12.30% | +27.11% | +64.71% | +15.35% | -34.91% | +35.06% | +28.85% | +167.31% | +13.58% | 24.82% | 0.45 |

| Fund Performance | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | YTD |
|---------------------------------|--------|--------|---------|--------|---------|---------|--------|--------|
| Green Ash Horizon Fund (USD IA) | +2.02% | -8.81% | -12.82% | +1.26% | +14.01% | +12.15% | +4.39% | +9.63% |

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Fund History

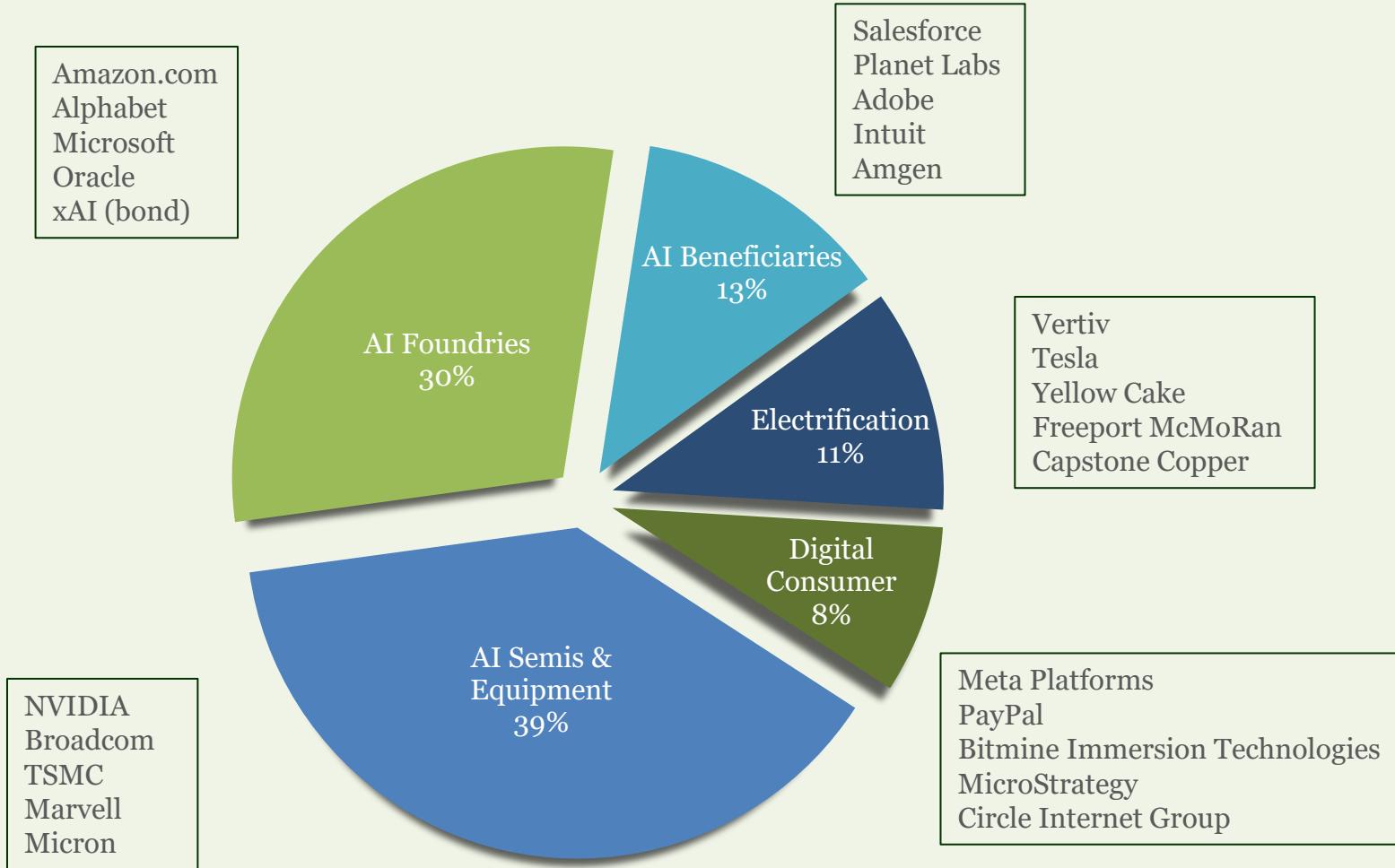
2017-2021 – Strategy launched and built track record in a managed account, delivering annualised returns of +21.6% and cumulative returns of +122.3% over the period¹. This includes the launch of strategy as a UCITS fund on 9th July 2021. Themes of Digital Consumer, 5G & Edge, Data & AI, Genomics and Electrification offered exposure to multiple secular growth trends around eCommerce, electronic payments, connectivity, digitalisation, biotech and the energy transition, many of which benefited from a huge uplift during the pandemic.

2022 – Tech bear market, driven by post-COVID ‘revenge of the old economy’, war, inflation, and severe monetary policy tightening globally. Fund declined -34.9%.

2023-to now – AI revolution: post-ChatGPT, the thematic focus has pivoted substantially to AI, associated infrastructure and downstream value. Current themes are AI Semis & Equipment, AI Foundries, AI Beneficiaries, Electrification and Digital Consumer, the objective being to offer exposure to the full AI stack and dynamically adjust exposure as value flows from the infrastructure layers through to applications. The fund has delivered annualised returns of +28.4% and cumulative returns of +90.8% over this period (to 31/07/25).

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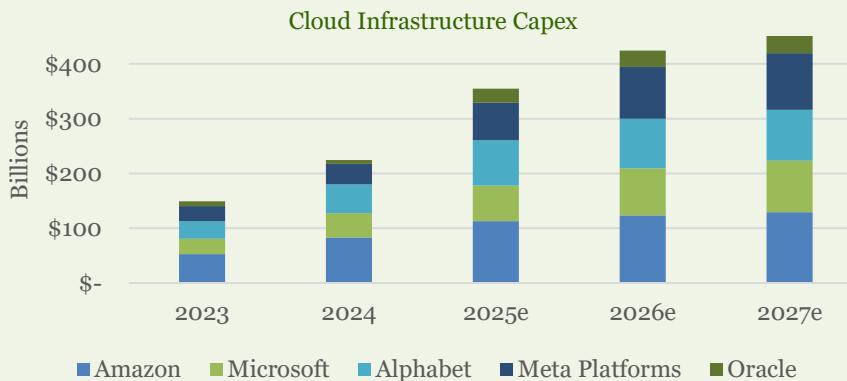
Themes with top weights



Source: Bloomberg; Green Ash Partners

AI Semis & Equipment – the largest investment cycle since the railroads

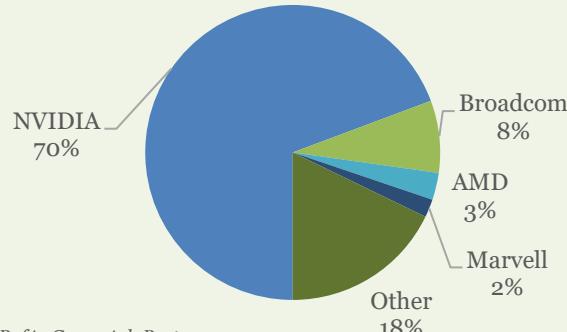
2027e hyperscaler datacentre investment is forecast to triple versus 2023, growing at a 4Yr CAGR of +32%



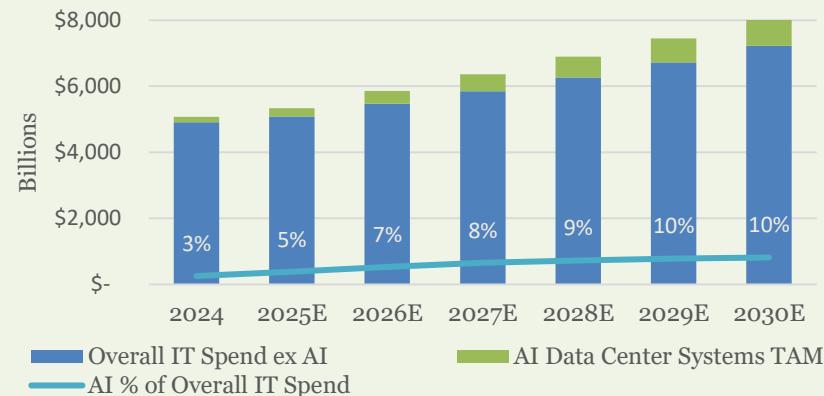
Source: Bloomberg; Green Ash Partners

At ~+30% CAGRs, AI semi companies could grow sales >3x by 2030

AI Datacentre System Share FY25e

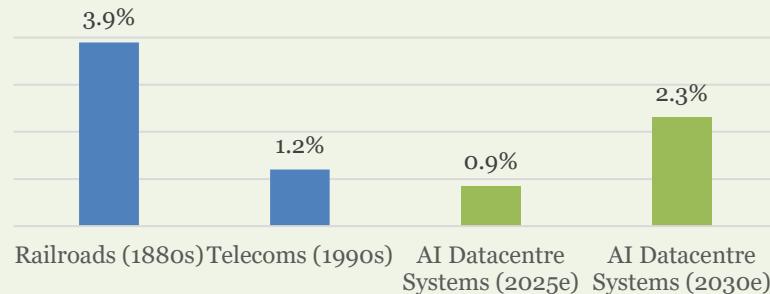


Most industry and analyst estimates converge on a \$1 trillion AI datacentre TAM by 2030 (still only 10% of overall IT spend)



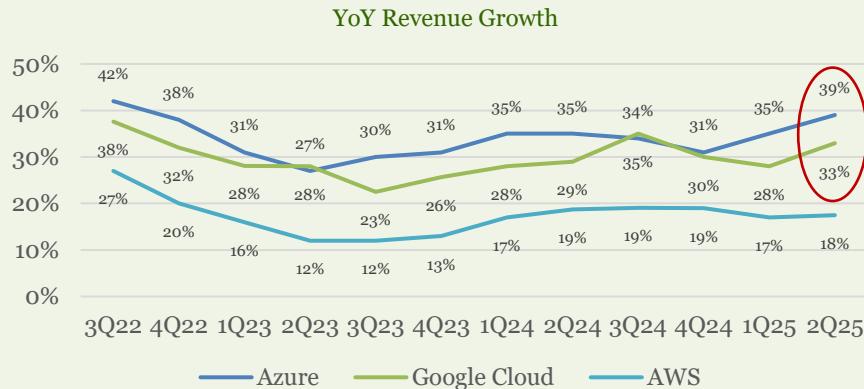
Datacentre capex forecasts would exceed peak telecom investment in the 1990s but are still well below the railroads

Peak Infrastructure Capex as a % of US GDP



AI Foundries – model training and inference accelerating cloud revenues

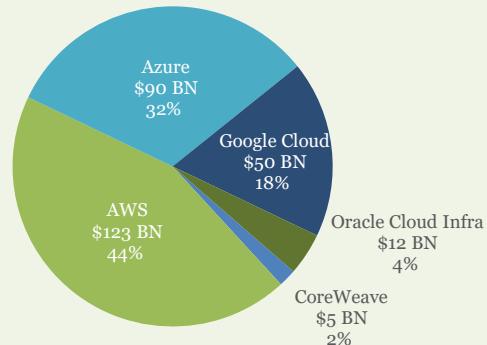
Azure and Google Cloud showed significant growth inflections in 2Q25



Source: Bloomberg; Green Ash Partners

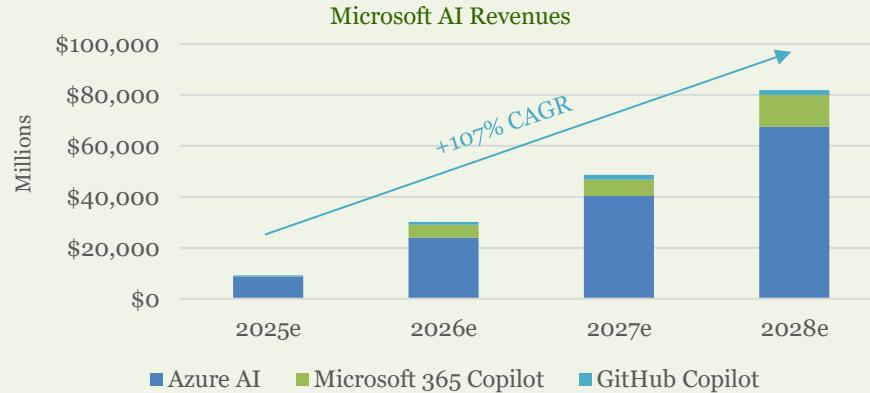
High YoY growth rates are stacking on very large revenue numbers

Cloud Revenue Run-rate is \$280 Billion



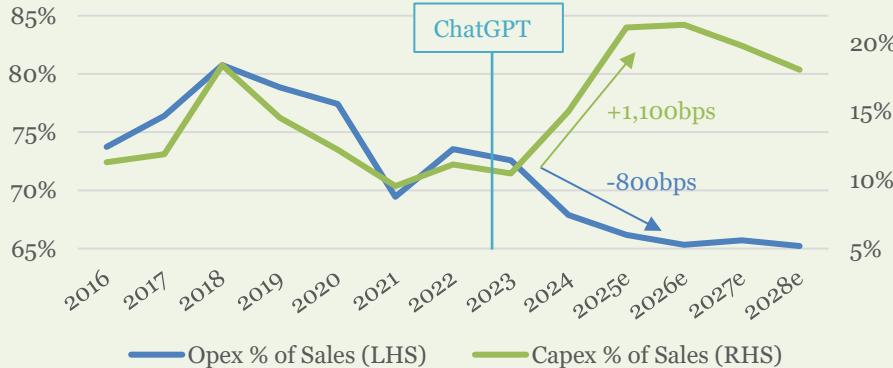
Source: Bloomberg, company reports; Green Ash Partners. CoreWeave uses FY25e guide

Street forecasts point to big tech AI revenues starting to make a meaningful contribution to the top line over the next few years



Source: Bloomberg; Green Ash Partners

Since ChatGPT, +1,100bps rise in capex as a % of Alphabet's sales has been partially offset by a -800bps decline in opex as a % of sales



Source: Bloomberg; Green Ash Partners

AI Beneficiaries – productivity gains and faster development cycles

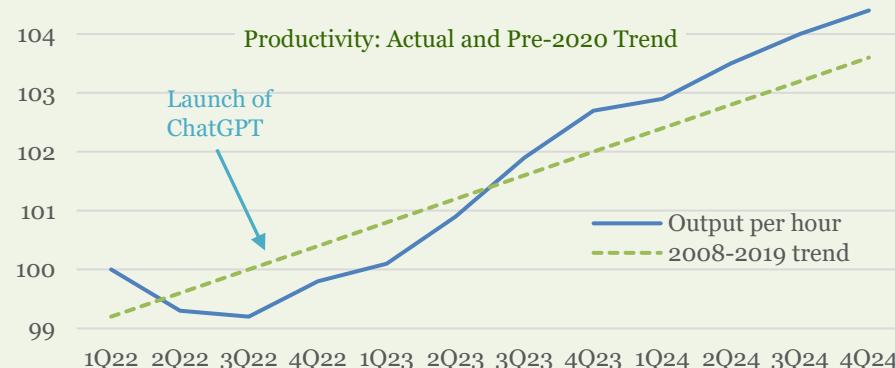
Coding has been one of the fastest areas of capability improvement, and also is a profession of early adopters. As such, it is a bellwether for how AI might diffuse through other professions and industries

>50% of internal code at Google is written by AI



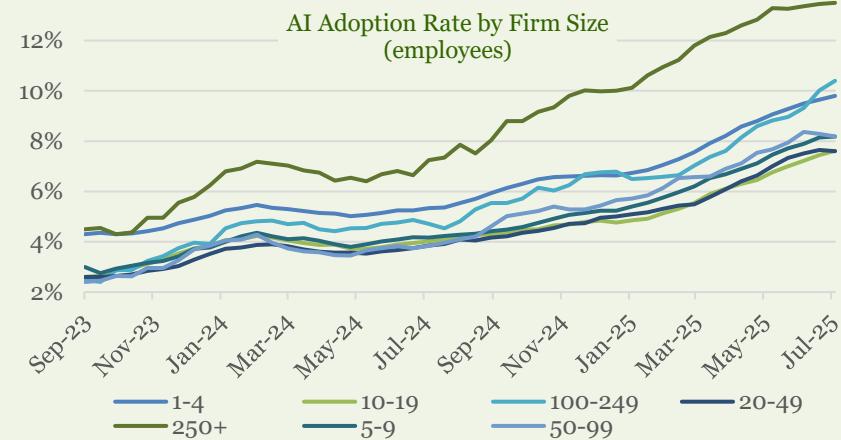
Source: Google

There is some early evidence of AI productivity gains in macro data



Source: Bureau of Labor Statistics, Federal Reserve Bank of Chicago calculations

Enterprise AI adoption has accelerated over the last 12 months, with large firms leading the way



Source: US Census Bureau; Green Ash Partners. Moving average of six bi-weekly surveys

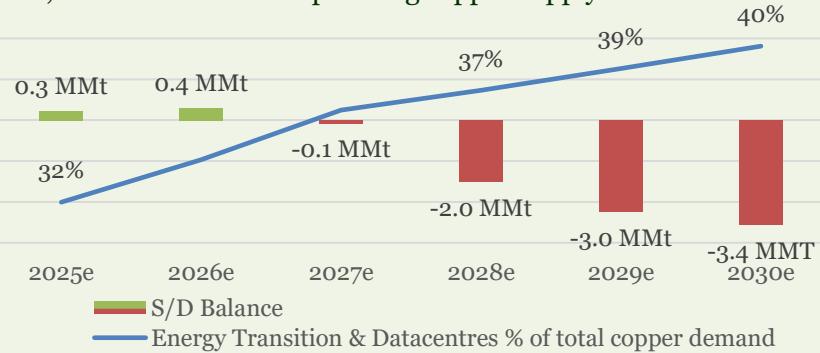
AI remains a key focus of non-tech companies on earnings calls



Source: Bloomberg; Green Ash Partners (S&P 500 earnings reports ex. info tech, comm. svcs.)

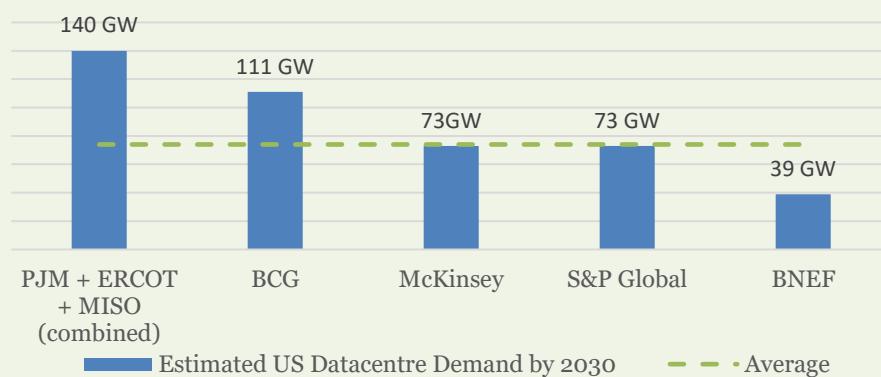
Electrification – electricity demand returns to growth

AI datacentres are copper intensive, consuming ~30kt of copper per MW, and will add to the upcoming copper supply deficit



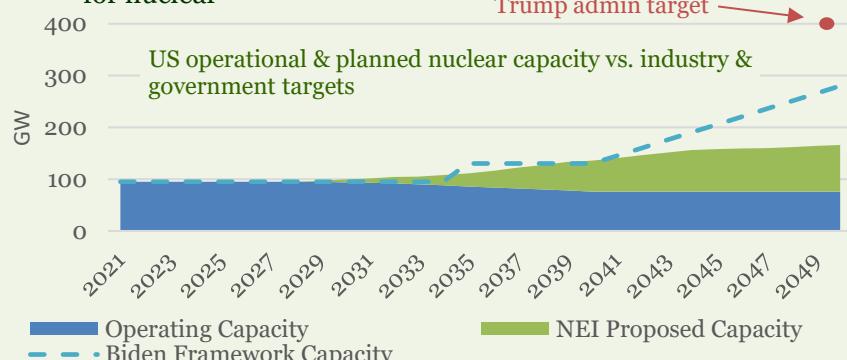
Source: BNEF; Green Ash Partners

Incremental AI datacentre demand will challenge US generation capacity (a total of 62GW was added in 2024, +4.8% growth)



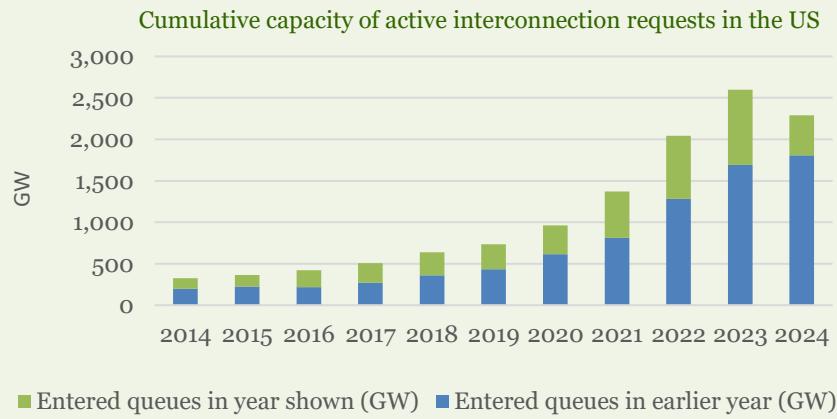
Source: PJM, ERCOT, MISO, BCG, McKinsey, S&P and BNEF; Constellation Energy. Adjusted for capacity factor

US administrations have laid out increasingly ambitious goals for nuclear



Source: BNEF; Green Ash Partners

Permitting is one of the main bottlenecks in bringing new capacity online



Source: Lawrence Berkley National Laboratory; Green Ash Partners

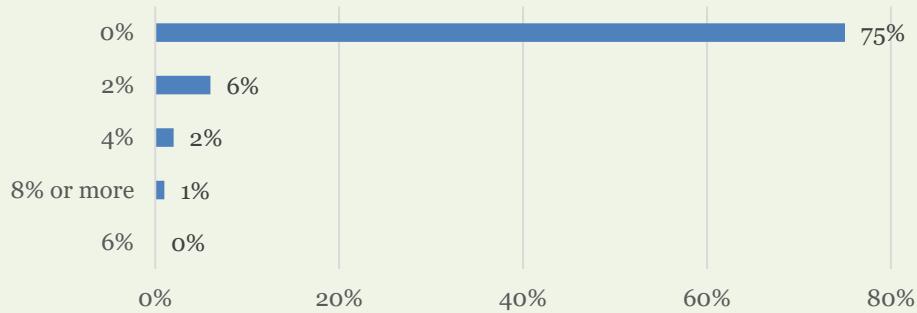
Digital Consumer – 2025 is the year of institutional crypto adoption

US admin cites estimates of the stablecoin market growing 10x over time



Source: DefiLlama

Despite regulatory blessing in the US, FMs have yet to allocate to crypto



Q: - "Which of the following comes closest to your current crypto position in your portfolio?"

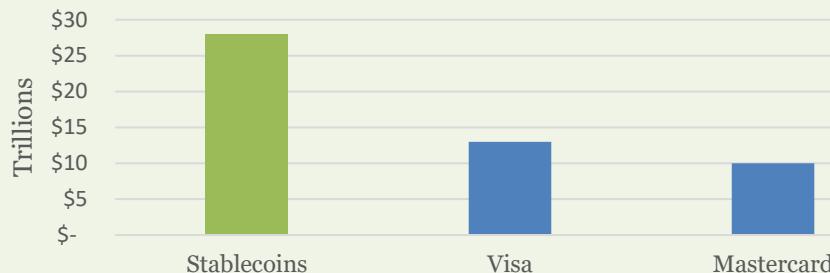
Source: BofA Fund Manager Survey – Aug 25

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Total stablecoin volumes exceeded Visa and Mastercard combined in 2024

Stablecoin transaction volumes compared with Visa and Mastercard



Source: Cex.io, Visa, Mastercard. Green Ash Partners

If the stablecoin market expands to the \$2-3 trillion estimates, it would be a larger buyer of US Treasuries than Japan and China combined



Source: US Treasury, Macrobond, Circle, Tether. Note: USDT is as of Q125 and USDC as of May 2025

Fund Information

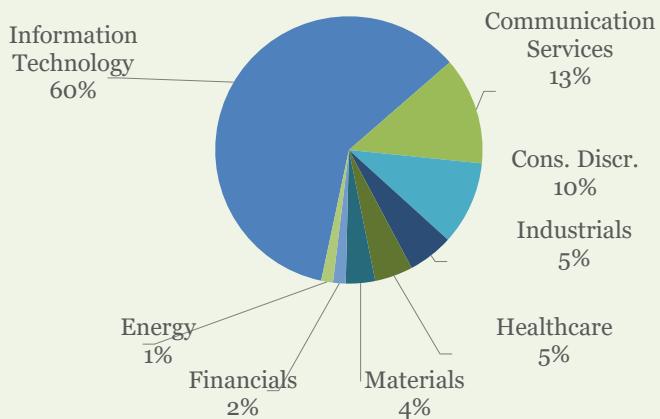
| | |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Fund Name | Green Ash Horizon Fund - a Subfund of Green Ash SICAV |
| Portfolio Manager | James Sanders |
| Fund Launch Date | 9th July 2021 |
| Fund Type | UCITS |
| Fund Domicile | Luxembourg |
| Liquidity | Daily |
| Fees | 0.80% p.a. + 10% performance fee on positive returns above the MSCI World TR (M1WO Index) |
| Fund Size | \$20MM |
| Share Classes | USD, GBP, AUD (Acc.) |
| USD IA USD RA GBP IA (hedged) AUD IA (hedged) | USD IA: LU2344660977 USD RA: LU2344660464 GBP IA: LU2344661272 AUD IA: LU2344661355 |
| NAV Price | USD IA: 123.08 USD RA: 100.00 GBP IA: 116.93 AUD IA: 111.04 |
| Min Investment (IA) Min Investment (RA) | \$250,000 / £200,000 / A\$350,000 \$10k |
| Investment Manager | Green Ash Partners LLP |



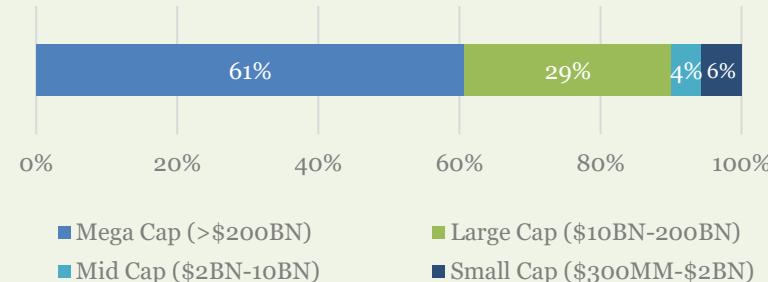
James is a portfolio manager and research analyst at Green Ash Partners. Over his 12+ years at the firm, James has overseen the fundamental analysis underpinning single stock and corporate bond holdings within Green Ash's family of managed accounts and UCITs funds, and is also responsible for the design and construction of thematic equity exposure. James is a member of the Investment Committee, and manages the Horizon fund. Prior to joining Green Ash in 2013, James worked at Morgan Stanley, providing analytics and investment advice to fund managers and large family offices in EMEA. His role covered a wide variety of advisory and discretionary investment mandates, spanning equities, fixed income, commodities and FX. James holds an Investment Management Certificate (IMC) and a Certificate in ESG Investing from the CFA Institute, and has a BA Hons degree in Philosophy from University College London.

Portfolio Positioning as of 31/07/25

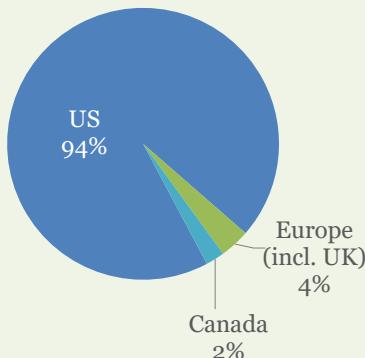
Sector Exposure



Weightings by Market Cap



Regional Exposure by Listing



Top 10 Positions

| | |
|-------------------------|-------|
| NVIDIA Corp. | 10.2% |
| Broadcom Inc. | 9.5% |
| Amazon.com Inc. | 8.3% |
| Alphabet Inc. | 7.6% |
| Microsoft Corp. | 4.8% |
| Meta Platforms Inc | 4.7% |
| TSMC | 4.7% |
| Oracle | 4.3% |
| Marvell Technology Inc. | 4.0% |
| Micron Technology | 4.0% |
| Number of positions | 41 |

Source: Green Ash Partners

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Green Ash Horizon Fund



Check out our website for thematic research and market commentary

www.greenash-partners/horizon-equity-fund

Thematic White Papers

On the Horizon #1 – Quantum Computing

A Brief History of Classical Computing

The last few decades have seen transformational technologies emerge that provide a bedrock for innovation across multiple industries. Transistors, their miniaturisation, and their arrangement into complex architectures at the heart of every electronic device, have enabled the exponential growth in computing power and data storage, technological evolution. Beyond the many conveniences and efficiencies that have arisen from this progress lie the dreams of data and computing that continue to grow exponentially. Moore's Law was originally retained intact, but the exponential growth in computing power has since spread to many other areas of electronics, such as sensors, RAM, flash memory, and the pixel count in digital cameras.

Software has expanded in synchronicity with hardware, a process referred to by Bill in the 90s as Andy and Bill's Law – or, "what Andy gives, Bill takes away" (Andy Grove was CEO of Intel during much of Bill Gates' tenure as CEO of Microsoft). This enables hardware/software upgrade cycles to have generated huge economic value over the last 30 years. The exponential growth in computing power has now reached a point where it is no longer limited by capacity leading to the commercialisation of, and broad practical applications for, machine learning and artificial intelligence. Nvidia CEO Jensen Huang has since coined "Huang's Law", which adds GPU architecture and algorithm efficiency to the mix to further highlight the exponential capability on an exponential path, even as silicon technology approaches the limits of Moore's Law. Taiwan Semiconductor Manufacturing Co. is investing in the development of 2 nanometre transistors, just 10 times the size of a silicon atom.

James Sanders – Portfolio Manager
August 2021

Source: Lines of Code (2000), Google's codebase across all services comprises 2 billion SLOC!

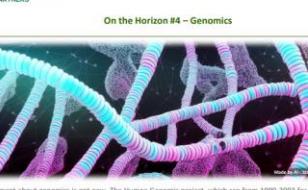
| Year | Lines of Code (B) |
|------|-------------------|
| 1970 | 0.001 |
| 1975 | 0.01 |
| 1980 | 0.1 |
| 1985 | 1.0 |
| 1990 | 10.0 |
| 1995 | 100.0 |
| 2000 | 1,000.0 |
| 2005 | 10,000.0 |
| 2010 | 100,000.0 |
| 2015 | 1,000,000.0 |
| 2020 | 10,000,000.0 |

Moore's Law: Transistors per Microprocessor, MM

| Year | Transistors per Microprocessor (MM) |
|------|-------------------------------------|
| 1965 | 0.001 |
| 1970 | 0.01 |
| 1975 | 0.1 |
| 1980 | 1.0 |
| 1985 | 10.0 |
| 1990 | 100.0 |
| 1995 | 1,000.0 |
| 2000 | 10,000.0 |
| 2005 | 100,000.0 |
| 2010 | 1,000,000.0 |
| 2015 | 10,000,000.0 |
| 2020 | 100,000,000.0 |

What is a Quantum Computer?

The possibility of quantum computers was famously raised by physicist Richard Feynman in May 1981, when he spoke at MIT on the topic of "Simulating Physics with Computers". In his talk, he argued no classical computer could ever hope to simulate a quantum system, as it would require an exponential number of operations. Nature, you'd better make it quantum mechanical, and by golly it's a wonderful problem because it doesn't look so easy". He has since been proven right – while techniques have been developed that allow us to look at quantum systems, the problem is that the interactions between particles are so subtle, the quantum-mechanical interactions between electrons cannot be modelled accurately, and as a result certain "quantum challenge" problems in chemistry, biology and materials science still elude researchers.



Excitement about genomics is not new. The Human Genome project, which ran from 1990-2003 for an estimated cost of \$3BN, attracted a great deal of interest amongst financial types in both private and public markets, creating a "Genomic Bubble" whose burst causing about a year later the Dot-com bubble of 2000. ahead of the first diagnostic test for a genetic disorder, cystic fibrosis, in 1989. The promise of "personalized medicine" to subcategorize diseases and adapt therapies to the individual patient", and that "gene-based designer drugs will be introduced to the market for diabetes mellitus, hypertension, mental illness and many other conditions".

Revolutionary new genomic treatments in the years since have been few and far between, and investor enthusiasm waned in the absence of headline grabbing breakthroughs. Lumifit to artificial intelligence in the "omics" space, however, has been a long time coming. What is the hold up? What can we expect to deliver on its promise. What has changed? A convergence of exponential technologies, falling costs and new tools have emerged the industry, catalyzing a leap from scientific research labs to commercial applications.

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 **GREEN ASH
PARTNERS** James Sondars – Portfolio Manager
March 2023

On the Horizon #5 – The Industrialisation of AI



Created by the author with Midjourney and Inspiring with DALL-E 2

In early 2022, we wrote about inflection points in the capabilities of AI, driven by advances in deep learning architectures and the increasing availability of the vast computational resources required to train them [see [The Horizon #3 – Artificial Intelligence](#)]. Convolutional neural networks (CNNs) had conquered image classification, computer vision, and natural language processing. New models were creating photorealistic human faces, transformer models were starting to get attention due to GPT-3's state-of-the-art text generation, and AlphaFold 2 had achieved breakthrough accuracy in protein folding predictions.

There were inklings that training transformer models on gigantic datasets and scaling their parameter counts to the hundreds of billions was creating "foundation models", with emergent properties beyond the original objective of better word embeddings. In 2022, this prediction exceeded all expectations – we are seeing a paradigm shift in technology, from the launch of the first browser or search engine to large language models that will bring AI everywhere, embedded in the software we use and the workflows we undertake on a daily basis. More fundamentally, they will change the way we interface with computers and information.

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Monthly Newsletters & Fund Commentary

Legal & Regulatory

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