Infrastructure Market Update

Q4 2022

Campbell Lutyens

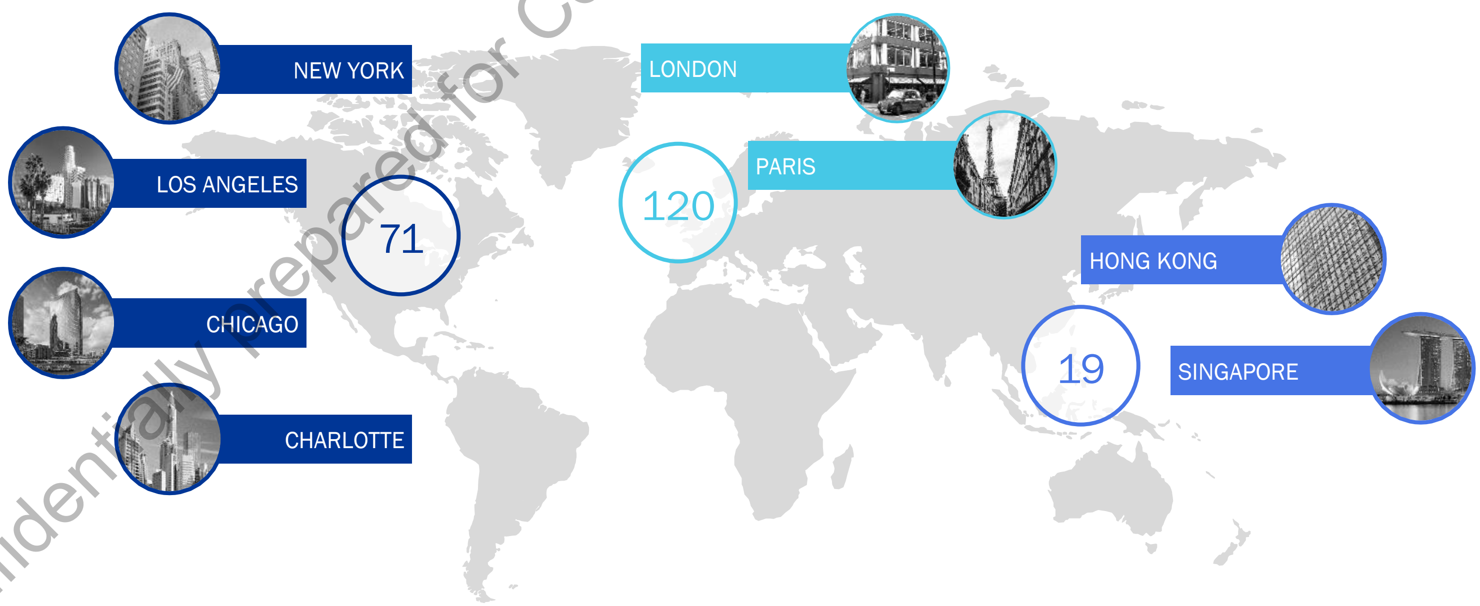
Contents

Campbell Lutyens has been advising leading GPs operating in private markets for over 30 years

Fund placement	Secondary advisory	GP capital advisory	*across*	Private equity	Private credit	Private infrastructure

100% employee owned

Global expertise, with local knowledge and relationships



CL’s dedicated infrastructure platform

Dedicated infrastructure platform combining **thought leadership** with **significant execution track record**

Global **coverage of >1,000 LPs through our extensive primary LP relationship manager network**

Network critical for executing infrastructure secondary transactions, which are increasingly **dominated by institutional investors with lower costs of capital**

Specialist experience in **advising infrastructure GP owners on minority / majority / financing transactions** at the management company level

Key stats

Primary

Aggregate value of **~$50bn** raised in primary Infrastructure

Across **>30** infrastructure funds since 2012

Senior, dedicated team of advisory / execution individuals

Secondary

Advised on **~$20bn** of infra secondaries

>300 years of collective secondary advisory experience

Closed **>20 GP-led** infra secondary transactions in past 5 years totalling **>$14bn**

CL’s infrastructure platform

Senior primaries infrastructure team


Gordon Bajnai
Partner, Global Head of Infrastructure


Ronak Patel
Partner


Guillermo Marroquin
Partner


Richard Moore
Managing Director


Dan Kim
Managing Director Midwest US


Lukas Neubauer
Senior VP DACH


Alex Cass
Senior VP


Alex Jerez-Fernandez
Senior VP


Ed Abel Smith
VP

Senior secondaries infrastructure team


Immanuel Rubin
Partner, Head of European Secondaries


Gerald Cooper
Head of North American Secondaries


David Perrin
Partner


Ben Pearce
Partner


Ana Dicu
Managing Director


Tim Dean
Managing Director

CL’s infrastructure awards

IJ Investor Awards
Best Placement Agent

IJInvestor Awards 2019 | IJInvestor Awards 2020 | IJInvestor Awards 2021

Infrastructure Investor Awards
Global Infrastructure Placement Agent of the Decade

Infrastructure Investor

Executive summary

1 LP bandwidth constraints

- ~$250bn currently sought by >350 infra funds in market[1]
- LPs are slowing down / triaging re-ups, postponing new commitments and waiting until later closes before committing
- Majority of LPs are now holding back to use next year's allocation

2 Inflation -> interest rates -> valuations

- LP expectations that real assets, including infra, will serve as a defensive instrument against inflation / increasing interest rates
- Given how certain infra assets are structured, inflation can even be accretive to certain asset business cases
- Increased scrutiny of inflation correlation, interest rate resilience and valuations / exit values

3 Energy transition ("ET") / security

- ET considered the strongest mega trend in infra, boosted by new regulation and geopolitics
- Energy security increasingly a key investment theme alongside the ET as a result of Russia-Ukraine crisis
- Energy security set to make LNG, renewables and new ET technologies winners as GPs compete for new allocations

4 Denominator effect / USD dynamics

- Rapid drop in public market equities and lag in private market valuation reporting has meant that some LPs are now over-weight in private markets exposure
- Some putting part of their programme on hold or even selling down via secondary markets
- USD strength hurting LPs in RoW

5 Other mega trends driving infra investment

- Digitalisation
- Global supply chain realignment
- Demographic change

6 Regulation

- EU SFDR and new SEC rulebook impacting LP / GP behaviour
- US Inflation Reduction Act – a major tailwind for ET assets
- However, major concerns about political / regulatory disruption as a reaction to inflation

Positive trend for infrastructure

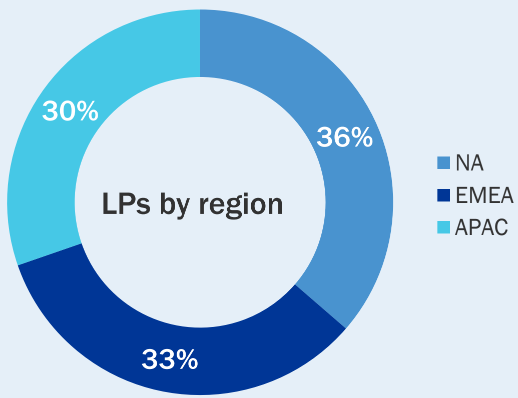
Infra projected to be one of the beneficiaries of the inflationary environment and is set to move beyond a $1 trillion asset class this year[2]

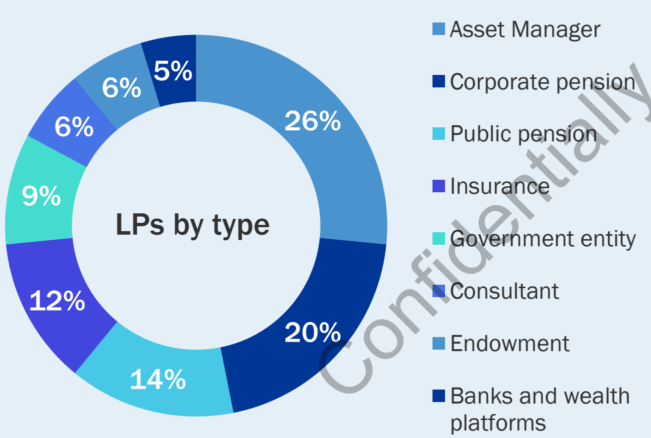
1) As at 1 July 2022 – Source: Infrastructure Investor (adjusted to include GIP V and EQT VI)
2) Source: 2022 Preqin Global Infrastructure Report; 2021 figure is annualized based on data to March. 2022-2026 are Preqin's forecasted figures.

Executive summary continued

During the summer, we held conversations with 66 infrastructure investors

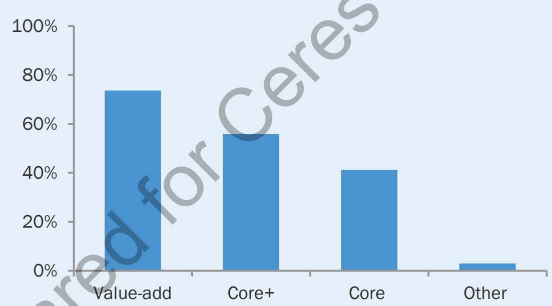
Who we surveyed?



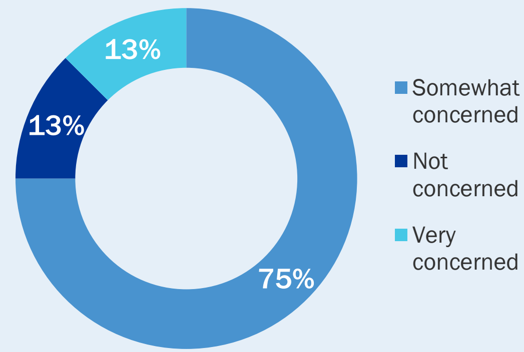


What did they have to say?[1]

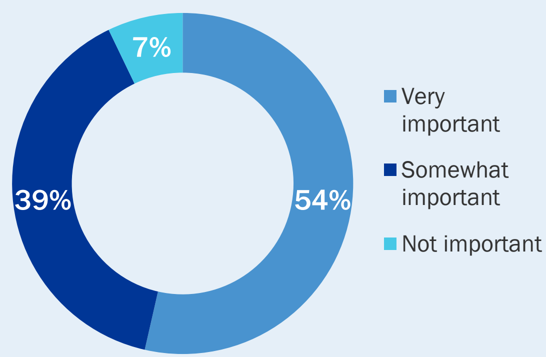
What strategies are you committing to?[2]



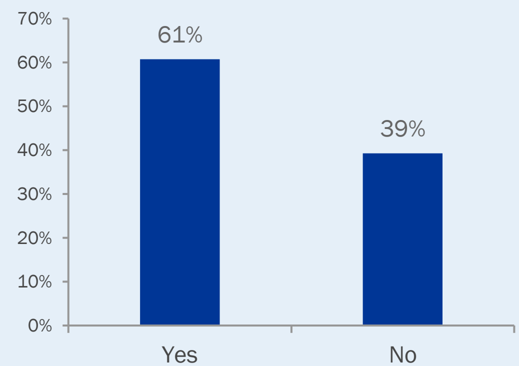
What is your current market sentiment, regarding inflation / interest rates?



When selecting a manager, how important is ESG?



Are you increasing your infra allocation?



1. Results based on those who answered the specific question.
2. Includes responses where multiple strategies were referenced.

Infrastructure market fundraising context

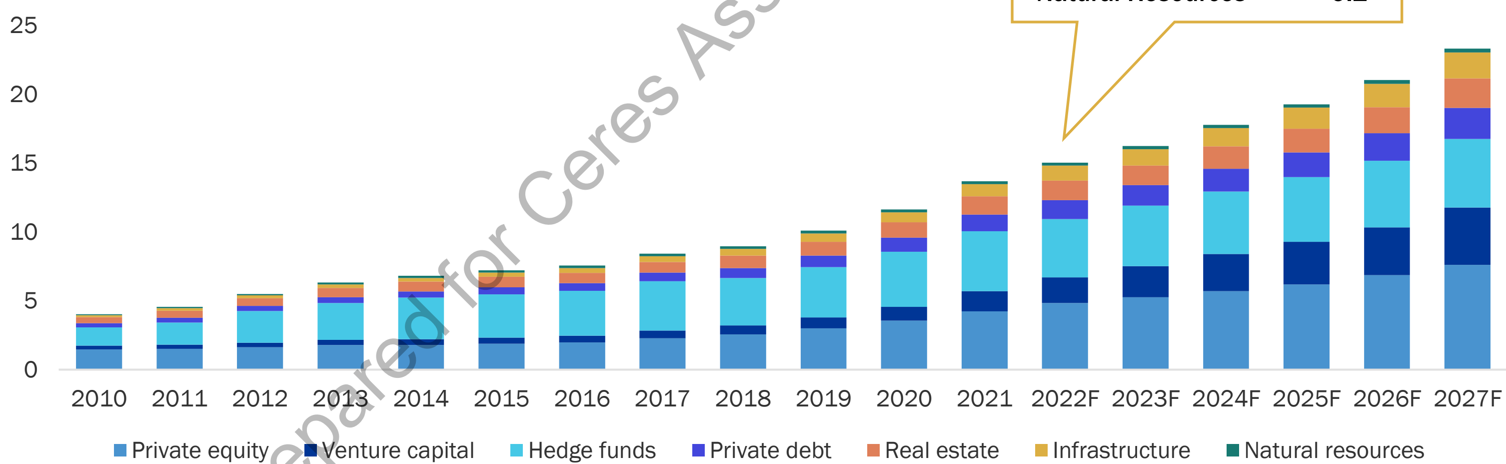
Private infrastructure: $1 trillion asset class

Commentary[1]

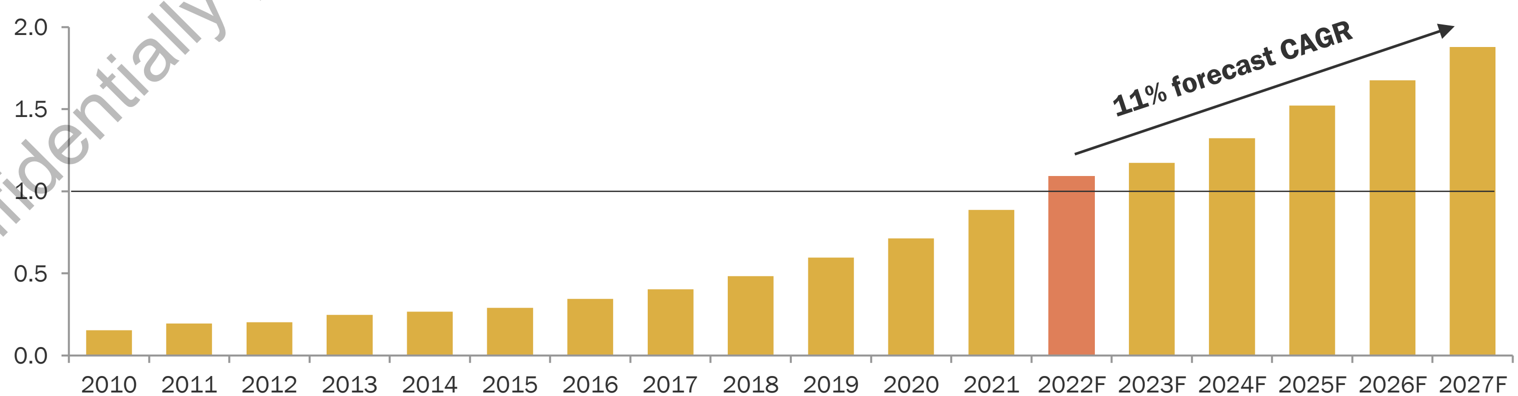
- Once a nascent asset class, infra has evolved into a leading segment within alternatives and continues to grow at speed
- Infra continues to grow with a projected CAGR of ~11% between 2022 and 2027
- Preqin forecasts AuM in private infra will reach ~$1.9tn by 2027, closing in on real estate's ~$2.1tn forecast

Private Equity	4.8
Venture Capital	1.9
Hedge funds	4.2
Private Debt	1.4
Real Estate	1.4
Infrastructure	1.1
Natural Resources	0.2

Alternatives assets under management ($tn)[1]



Infra assets under management ($tn)[1]



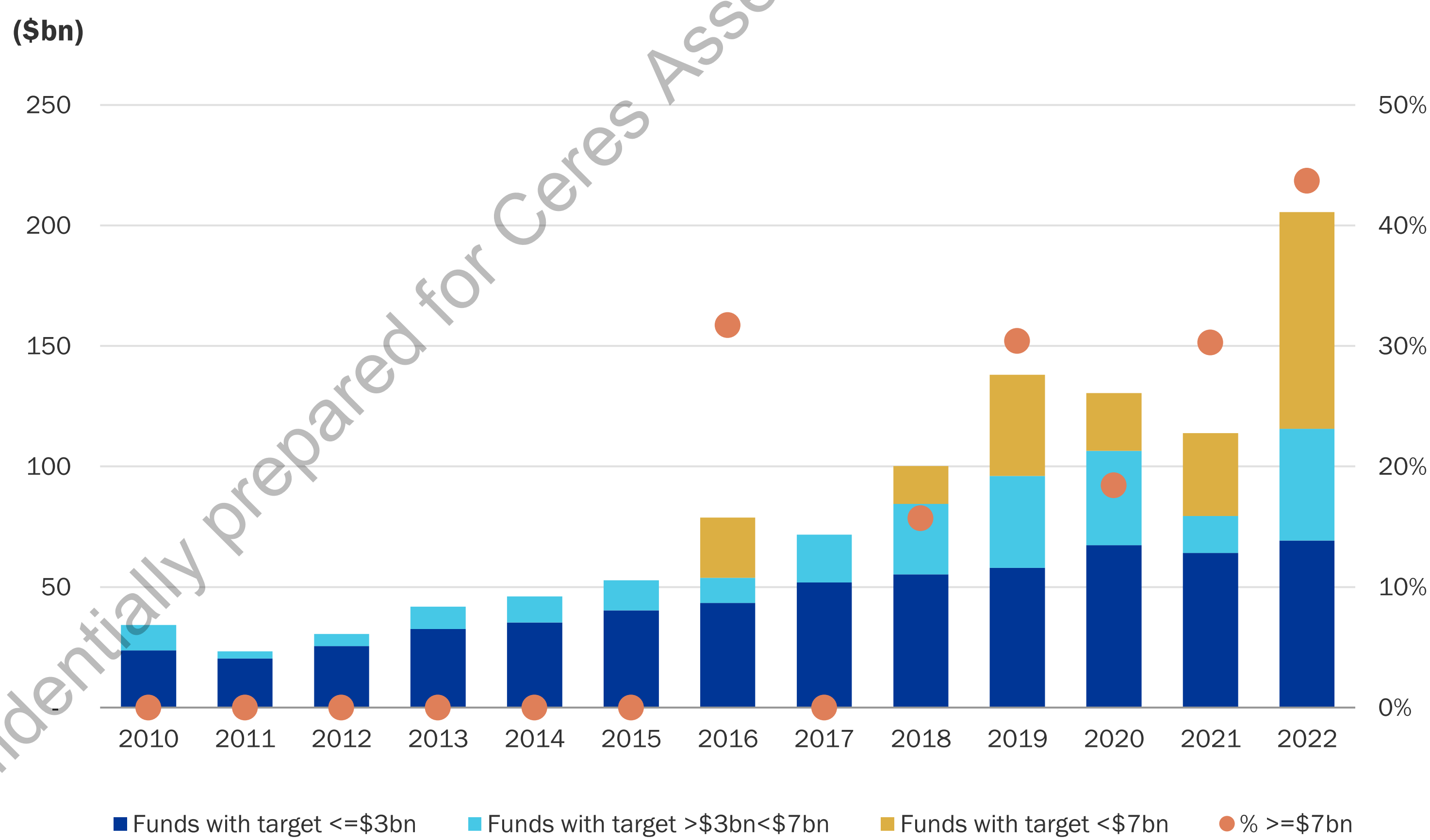
1) Source: Preqin Special Report – The Future of Alternatives in 2027. Closed-ended funds only.

>$250bn currently sought by >350 infra funds in market[1]

…Not a car crash, but a major traffic jam

- **LPs are time, resource and capital constrained,** in part due to GPs coming back earlier and for more capital
- Dynamic heightened by large cap fundraising trends, where GPs are raising mega funds alongside multiple other platform extensions

Capital targeted for closed-ended infra funds (by target fund size)[2]



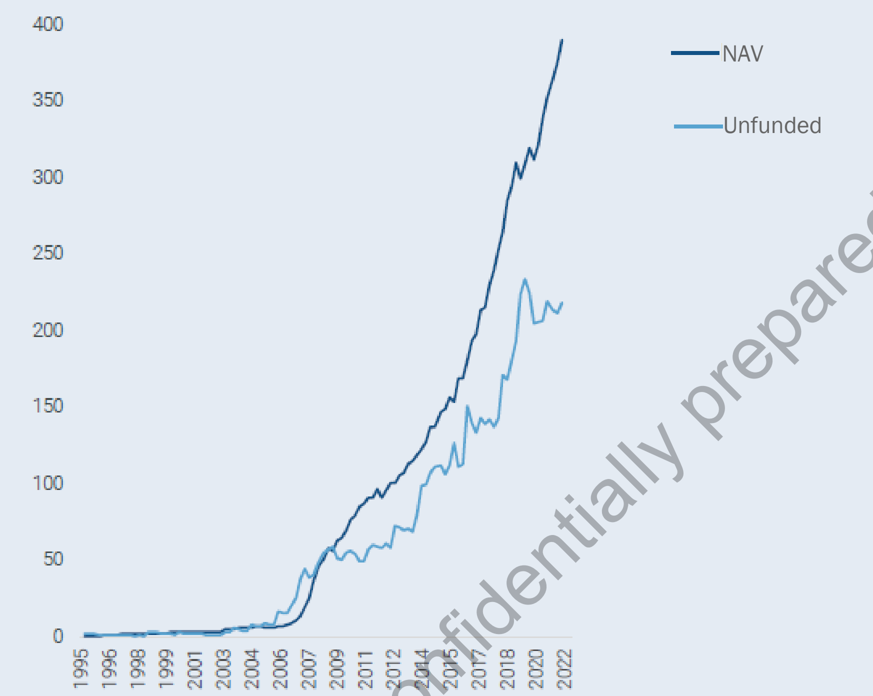
1) As at 1 July 2022 – Source: Infrastructure Investor (adjusted to include GIP V and EQT VI)
2) Source: Preqin & CL analysis; Note: includes all commingled, closed-ended infra funds across core, core+, debt, opportunistic and value-add strategies

Net LP liquidity data helps illustrate the LP capital squeeze...

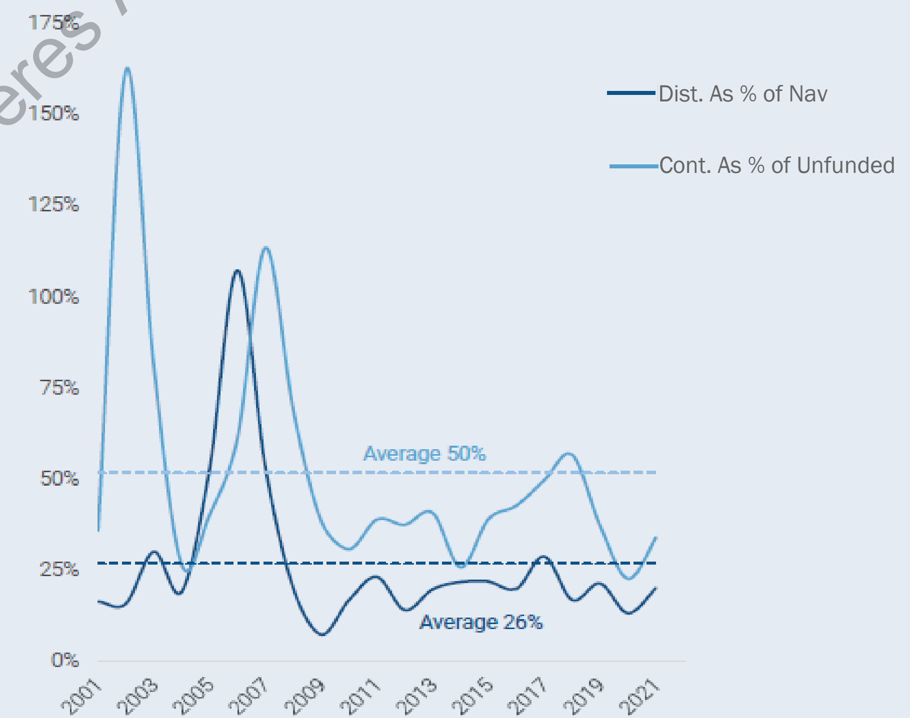
Long-term trend of negative LP liquidity in infrastructure

NAV and unfunded commitments by year[1]

($bn)



Distributions as a % of NAV and contributions as a % of unfunded[2]



1) Source: Hamilton Lane data via Cobalt as of 30 September 2021, quoted in "Hamilton Lane, Real Assets Market Overview, March 2022"
2) Source: Hamilton Lane data via Cobalt as of 31 December 2021, quoted in "Hamilton Lane, Real Assets Market Overview, March 2022"

...As does the re-emergence of the denominator effect for many LPs

Public Markets and LP Portfolios

2022 has seen one of the worst starts to the year for public markets in since the financial crisis.

Some LPs are therefore facing a portfolio denominator effect and being overallocated to alternatives given:

i) Total portfolio values have shrunk;

ii) Alternatives have performed strongly; and

iii) Public market valuations typically take 6+ months to trickle into private markets.

Negative liquidity + the denominator effect = an allocation squeeze

What options do LPs have?

i) LPs could increase infra allocations (this takes time...)

ii) LPs could rebalance their portfolios

iii) LPs can utilise secondary market solutions to free up liquidity

iv) LPs may wait for public markets recovery / next year's allocations

Denominator effect does not impact all LPs equally; those with more flexible mandates can adapt to a proportional increase in their private markets / infra exposure

Recent LP feedback

"Clients struggle with overweight private markets propelled by underperforming liquid assets. One of their larger clients is pausing infrastructure investments altogether

German consultant

"Private markets at ~40% of total AuM due to underperformance of public markets allocation. Forced to sell open-ended real estate funds; cautious on new infrastructure commitments

Swiss pension

"Increasingly constrained by a strict overall illiquidity target allocations and the denominator effect setting in

US Pension

"Rise in rates coupled with fall in public markets has meant [we] are currently on hold – definitely for this year and also likely into next year as well

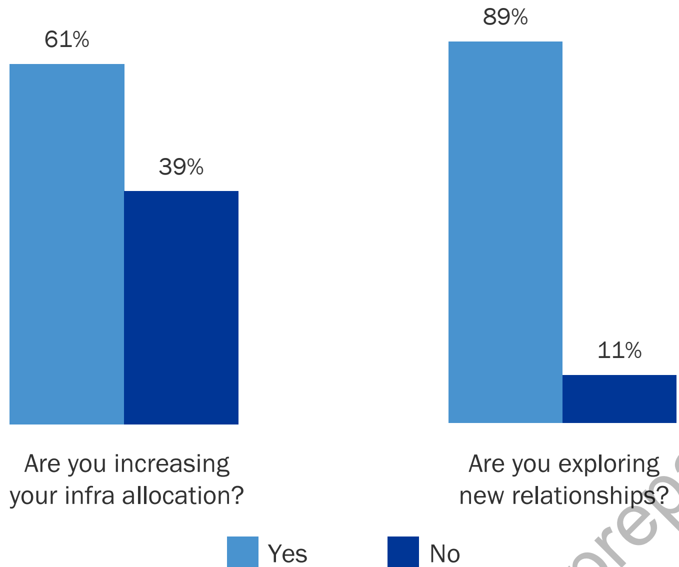
Dutch Pension fund

"Whilst the NAV of the pension fund has reduced c.£1.5b during 2022, the private markets portfolio has increased in value and we now find ourselves materially over allocated. Two new commitments got approved last week, but they are not going ahead because of our allocations

UK Pension fund

However, we find that many LPs are increasing allocations and exploring new relationships…

Survey findings



Analysis

- Clear willingness to explore new relationships
- LPs continue to seek comfort with established managers and relationships – committing to newer names alongside them, not instead of them
- 60% of respondents flagged their preference for new relationships in the mid-cap space, likely driven by sectoral offerings, energy transition products and the fact that many established GPs have grown out of that space

“We are always on the lookout for managers that could complement or replace what we have

Swedish asset manager

“We expect allocation to double over the next 3-4 years

Canadian pension fund

Where the denominator effect has prompted a short-term slowdown in private market capital flows, our survey shows a medium-term desire from LPs to increase their infra allocations. **Will the demand side ultimately keep pace with the ever-growing supply side? How long will it take for the backlog of funds to clear?**

...Albeit, investors continue to support and trust large-cap managers as they build their platforms...

- **Concentration dynamics:** CL estimates 9 infra GPs are targeting ~$150bn across various products
- Whilst of this $150bn Brookfield's first close on Fund V is being held at ~$20bn and certain other strategies will have also closed some capital, EQT and GIP have only recently launched with ARDIAN to follow later this year
- Likes of Stonepeak and KKR are expected to be back in market with their flagship funds during 2023

Select infra funds expected to be in market during Q4 2022, based on target size

($bn) – EUR:USD assumed 1:1 for the purposes of this analysis

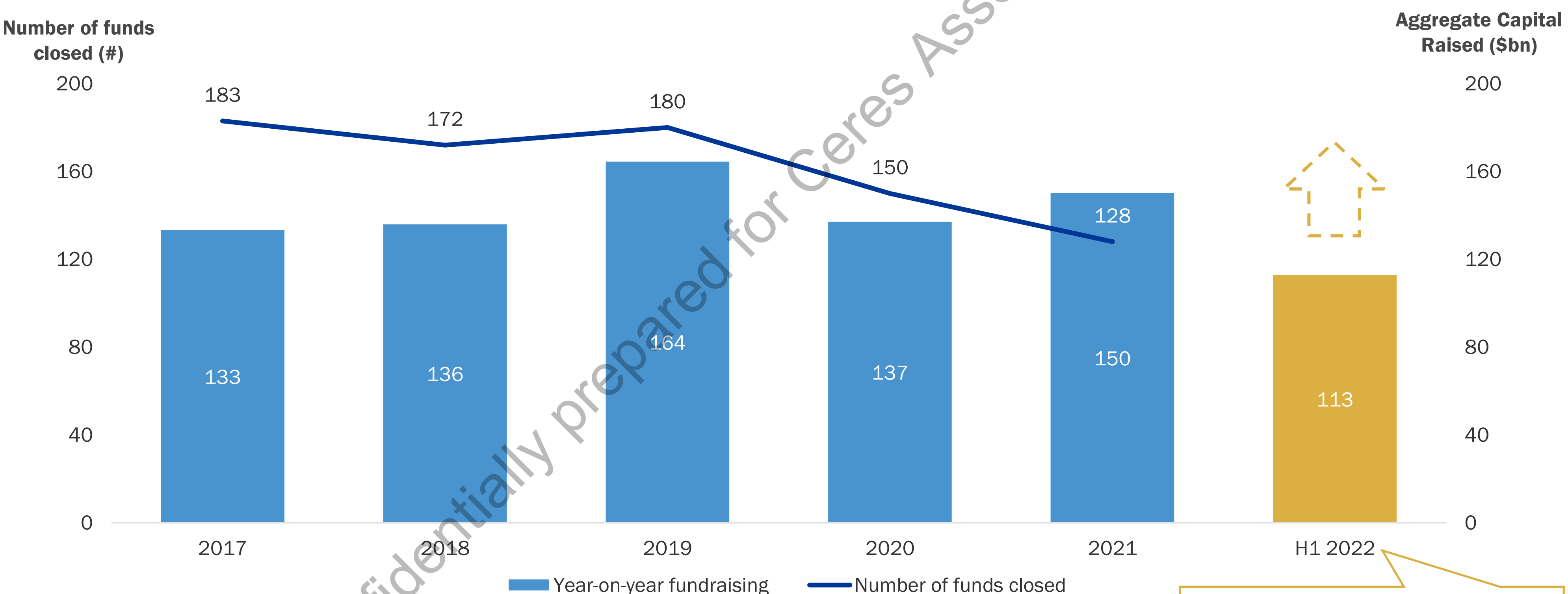
	Main Fund	(Super) Core	ET / next gen	Regional	Infra debt	Mid-cap	
EQT	20.0	5.0	–	–	–	–	**25.0**
Brookfield	25.0[1]	See note[2]	–	–	3.5[3]		**28.5+**
MACQUARIE	7.0 + 8.0[4]	2.5 + 4.0[5]	–	–	–	–	**21.5**
KKR	–	See note[6]	–	4.1[7]	–	–	**4.1+**
GLOBAL INFRASTRUCTURE PARTNERS	25.0	5.0	–	3.0 + ~2.0[8]	–	–	**~35.0**
ARDIAN	10.0	–	2.5	–	–	–	**12.5**
I SQUARED CAPITAL	–	–	–	2.5	1.0	–	**3.5**
Stonepeak	–	5.0[9]	–	3.0	–	2.5	**10.5**
ANTIN INFRASTRUCTURE PARTNERS	10.0[10]	–	1.2[11]	–	–	–	**11.2**
Total							**~150.0**

1) First close held at $21bn; 2) Open-ended fund (target $5bn, current size ~$8.1bn); 3) Currently closed on $2.8bn; 4) MIP VI and MEIF 7; 5) Macquarie Super Core (we understand it is raised as part of a fundraising series in $2.5bn increments) and Macquarie Global Infrastructure Fund, an open-ended core fund targeting $4bn (we understand that as of August 2022. the fund has closed on $3bn); 6) Open-ended fund (target $5bn, current size ~$7.2bn); 7) KKR Asia Pacific Infrastructure Strategy Fund II (target size not available - current quantum closed ~$4.1bn); 8) GIP EM I and Australia II; 9) Open-ended fund; 10) €6.8m raised to date. 11) NextGen Fund (includes smart technology upscaling etc).

Sources: Preqin, Inframation, Infrastructure Investor, CL market research

...with the trend towards concentration increasingly obvious

Aggregate capital raised by unlisted infra equity funds that have reached final close[1]



Includes Stonepeak IV ($14bn), ISQ III ($15bn) and KKR IV ($17bn) and Brookfield Global Transition ($15bn). **CL notes that much of this capital would have been closed before 2022.**

2021 saw fewer funds reaching final close, but more capital being raised. With many of the mega funds back in market in 2022, CL expects similar concentration dynamics in the short to medium term.

1) As at 1 July 2022 – Source: Infrastructure Investor

In this context, select LP focus across areas include:

1 Inflationary environment

- Inflation
- Interest rates
- Valuations
- USD strength

2 Energy: transition and security

- Energy transition
- Decarbonization
- Energy security

3 Other infra-related mega trends

- Digitalisation
- Regionalisation & supply chains
- Demographic change

4 Regulatory intervention

- SFDR
- Inflation Reduction Act
- US-state level pushback
- Price caps / windfall tax / systemic energy price reform

Inflation protection

LP view: Infrastructure as an inflation safe haven?

Select survey responses

> Yes there's some good inflation linkages, but safe haven is too strong

US public pension

> Impact of inflation and rates debated constantly. Low margin, high operating cost businesses - concern is stagflation

Global asset manager

> [The current macro climate is an] opportunity for infrastructure to reassert its credentials

UK consultant

> We ideally want the real return to be unchanged – in some cases we have actually seen this increase when inflation goes up

UK pension

> Cannot be summarized generally, needs to be assessed on asset-by-asset basis

German Pension

> Would not want to be too reliant on having to pass price increases to customers

UK pension

> Scrutiny on the portfolio and the team around inflation…remain bullish on infrastructure

Asian SWF

Our respondents also flagged…

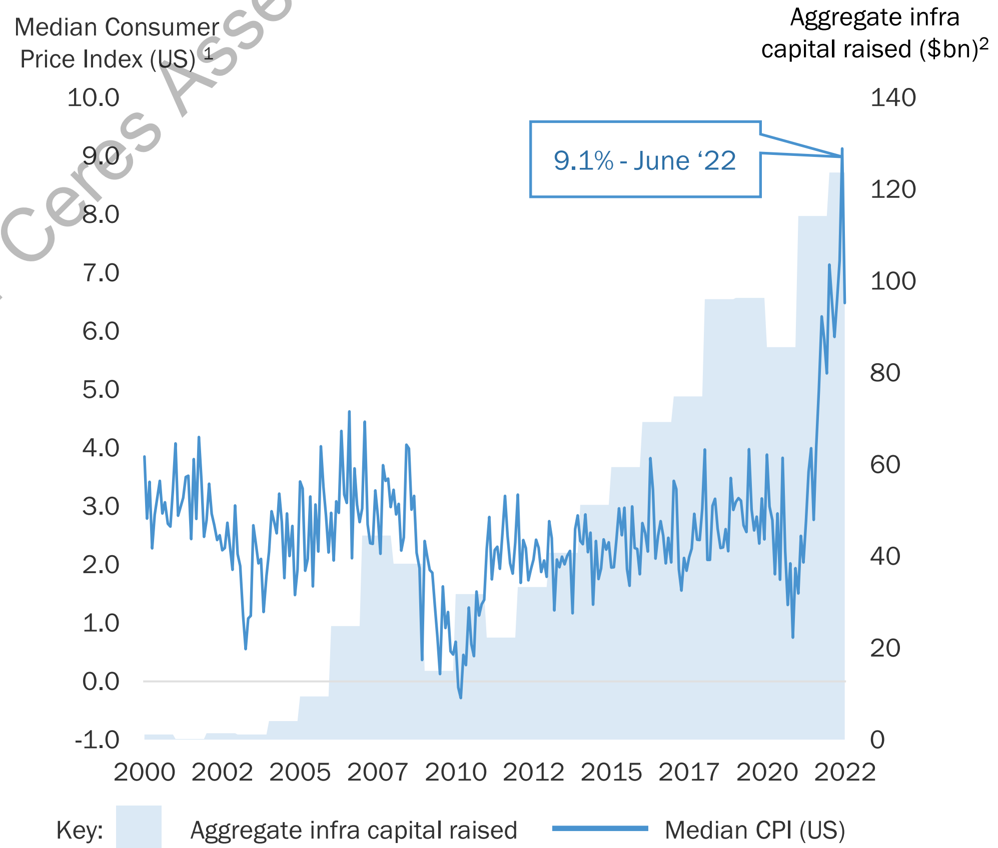
- **Geographical variation:** some cited greater concerns in Europe, than the US
- **Asset by asset evaluation:** one size does not fit all; inflation impact varies by asset, even within the same sector
- **Cross portfolio concerns:** similar safe heaven discussions being held across infrastructure, commodities and real estate teams

Inflation: Infrastructure market context

Analysis

- Since the beginning of the private infra market, up until the end of 2020, investors have been operating in a relatively stable inflation environment
- For example, the average US CPI was ~2.5% from 2000 to 2021[1]
- Since H2 2021, there has been a marked uptick in inflation, with US CPI hitting 9.1% in June 2022[1]
- Inflation has been driven by the economic recovery post COVID, "hot" labour markets, economic stimulus, supply chain shocks and higher energy prices due to the Ukraine crisis, among other factors[3]
- Whether this inflationary environment will be accompanied by strong growth or lead to "stagflation" remains to be seen
- However, given many of the investment professionals managing the significant levels of private infra AuM will never have operated in such an environment, investor DD on this topic will be important in seeking to find GPs best equipped to navigate these macro challenges

Inflation in the context of private infra capital raised

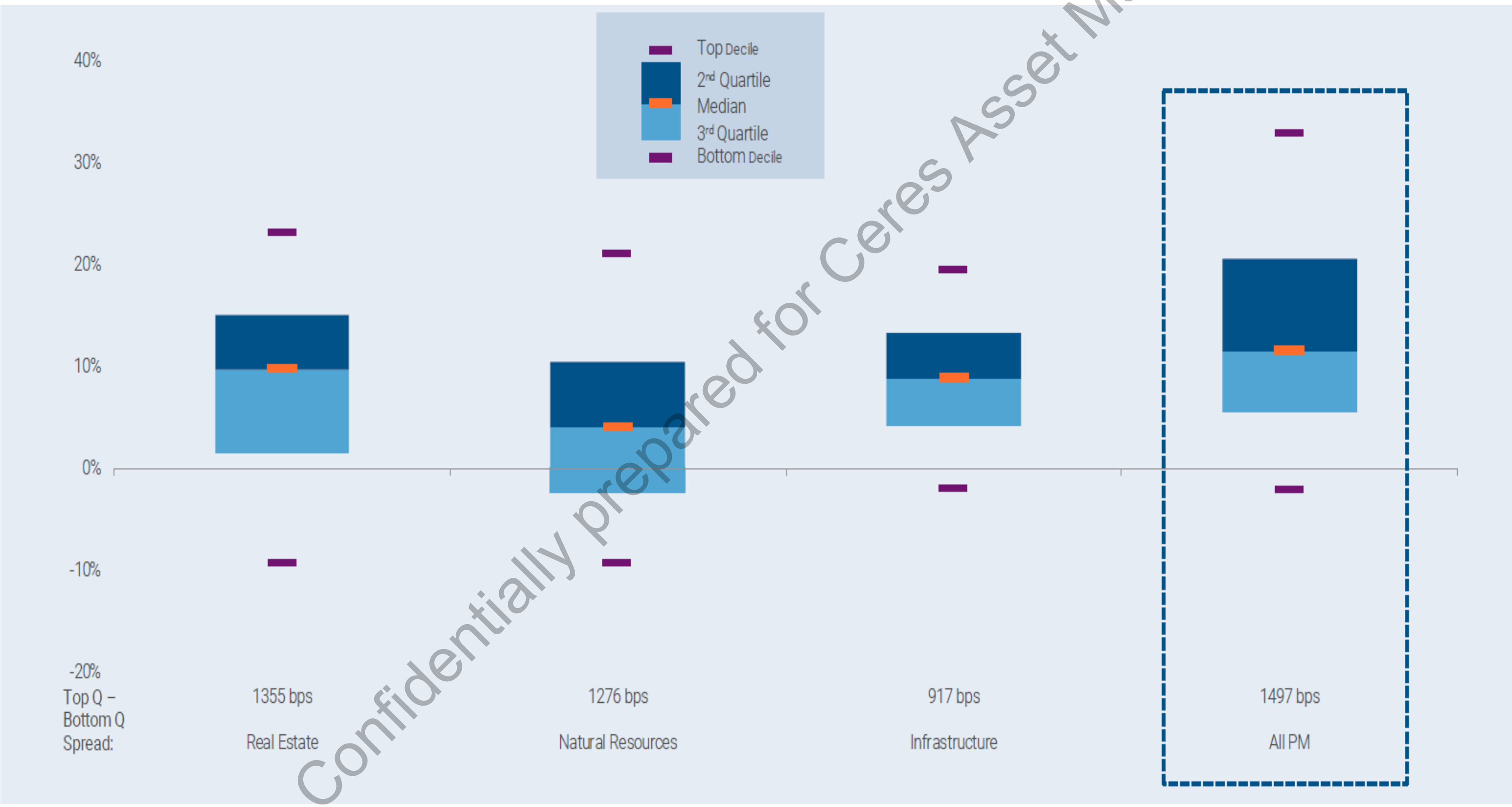


Note: We are not suggesting that there is a correlation between inflation and infra fundraising, simply that infra as a private asset class is yet to experience high levels of inflation

1) FRED, Federal Reserve Bank of St. Louis; 2. Preqin (across core, core-plus, opportunistic and value-added strategies); 3. The Burst of High Inflation in 2021–22: How and Why Did We Get Here? Ricardo Reis* London School of Economics

Infrastructure cross-cyclical resilence credentials

Dispersion of returns by strategy (vintage years 1999-2019)[1]



Dispersion of returns is less pronounced for infrastructure versus other real assets sub-sectors

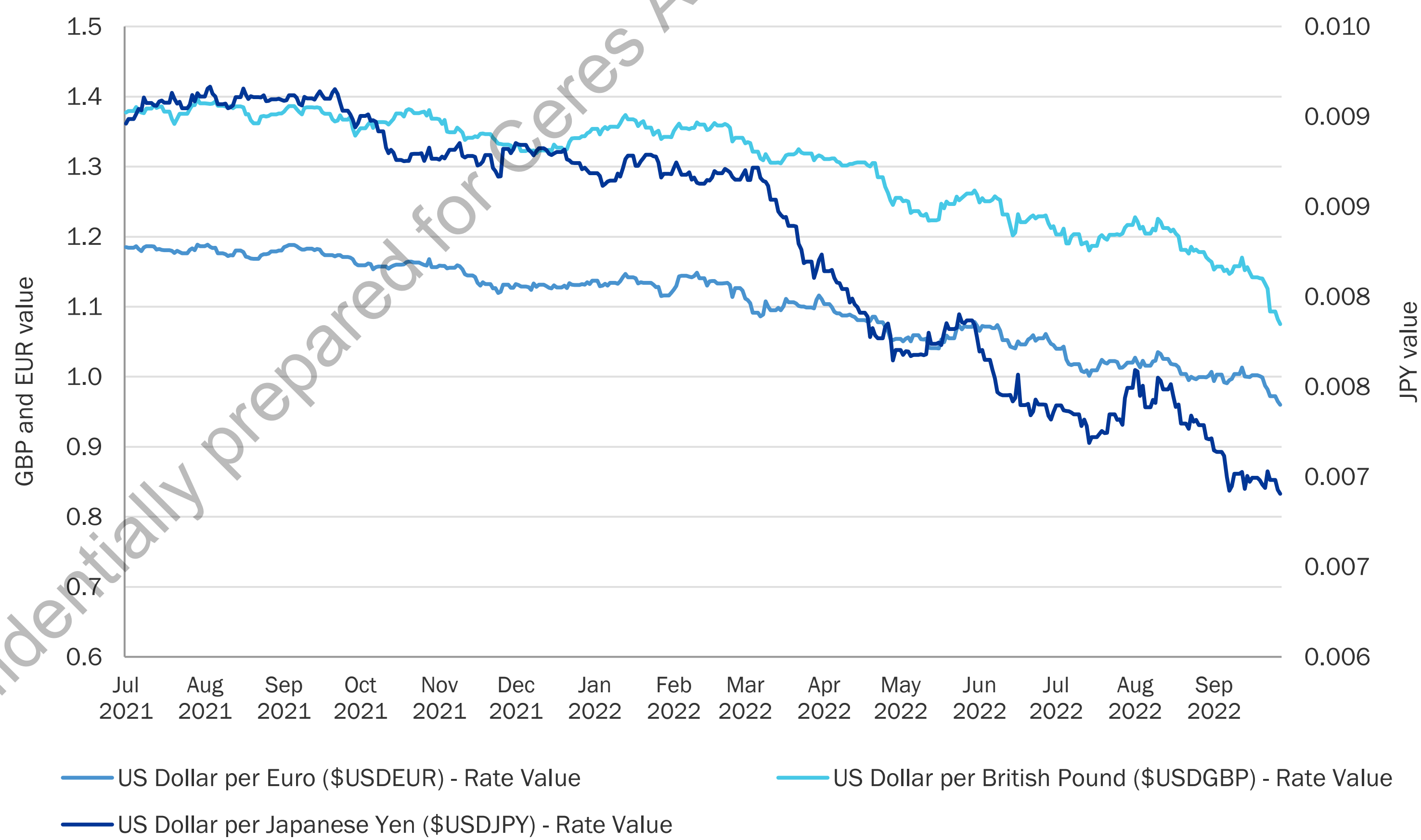
1) Source: Hamilton Lane data via Cobalt as of June 30, 2021; All PM includes Secondary Fund-of-Funds and Fund-of-Funds; quoted from "Hamilton Lane, Real Assets Market Overview, March 2022"

Inflation + geopolitics: USD as a safe haven

USD strength concerning some LPs

- New USD product becoming very expensive (subject to medium term assumptions)
- Existing USD commitment drawdowns exacerbate liquidity squeeze
- Long-term valuation of USD assets versus other currencies a consideration

USD compared to EUR, GBP and JPY[1]



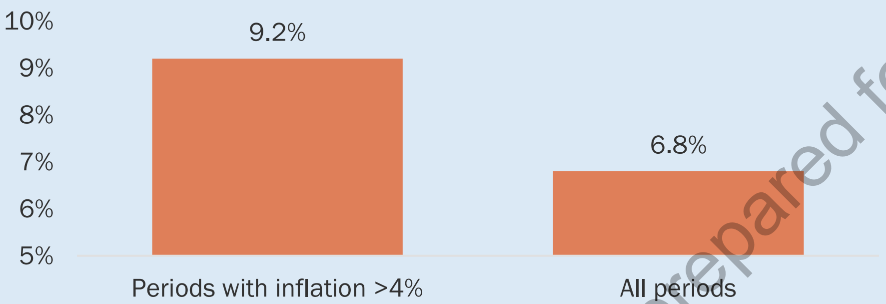
1) Source: Capital IQ

Inflation: Understanding whether infra is truly a "safe haven"

Analysis

- As Hamilton Lane data illustrates, infra assets tend to perform well during periods of high inflation

Private infrastructure: Average Performance During Periods of Elevated Inflation (>4%); 1999 – YoY Q3 2021[1]



- However, as CL's LP survey respondents highlighted, different regions, sectors and assets experience inflation correlation to different degrees
- For instance, an asset which has inflation-linked revenues and debt will broadly correlate with the inflationary landscape
- However, if an asset is highly levered but that debt demands a fixed interest rate, investors may begin to see material inflation impacts
- LP DD will increasingly need to focus on asset and strategy level correlations / sensitivities

Sectoral inflation correlation review (high-level CL analysis)

Sector	Inflation correlation	Commentary
Demand-based assets (e.g. transport)	Case-by-case	• Monopolistic, essential assets have strong pricing power (e.g. major airport hubs, toll roads, cargo ports) • However, living cost crisis can dent demand for tourism-driven assets, among others
Regulated utilities	Typically, positive but high regulatory risk	• Certain assets agree tariffs on a nominal basis within relevant regulatory periods, some of which can last a number of years, limiting flexibility • Extreme pressure of inflation / cost of living crisis typically creates political pressures for intervention
Availability-based assets	Positive	• Inflation-linked revenues for contacted assets • Financing typically on a long-term, fixed-rate basis (rate rise protection)
Energy transition / renewables	Positive to neutral	• Majority of revenue structures have inflation protection • Regulatory risk high in certain jurisdictions (e.g. Europe) • Merchant prices linked to commodity prices
Digital infra	Neutral	• Essential service with strong growth drivers but short-term questions about elasticity of demand (e.g. living cost prices)

1) Source: Hamilton Lane data via Cobalt as of 30 September 2021, quoted in "Hamilton Lane, Real Assets Market Overview, March 2022"

Inflation considerations: Some infra strategies benefit from inflation

Key questions for infra

Valuation	• What is the impact of increasing discount rates on valuations? How much buffer is there before returns are materially impacted
Contract structure	• What inflation protections are built into contracted revenue streams? Linkage, escalators? • Resilience of off-takers to price shocks • Are there regulatory or political barriers to increasing prices?
Leverage	• Is debt at a fixed-rate or inflation-indexed? • What is the debt maturity? Core assets often financed with long-term, fixed rate debt, so less exposed to rising interest rates
Pricing power	• Inflexibility of demand versus cost of living crisis • Pricing power strength – Can increased costs be passed through to the end consumer?
Costs	• Are input costs (e.g. feedstock, materials) inflation-linked? • USD FX impact

Listed core (PFI, contracted) infra inflation correlation data[1]

- HICL: For a 1% increase in future inflation assumptions portfolio return would **increase by 0.8%**
- INPP: Weighted average portfolio return expected to **increase by 0.7% p.a.** in response to a 1.0% p.a. increase in assumed inflation rates
- BBGI: Equity cash flows are **positively correlated to inflation at c. 0.44** (if long-term inflation was to be 1% higher than assumptions for all future periods, returns would increase from 6.55% to 6.99%

1) Sources: Company websites. Please follow the links for further detail on publically available sources.

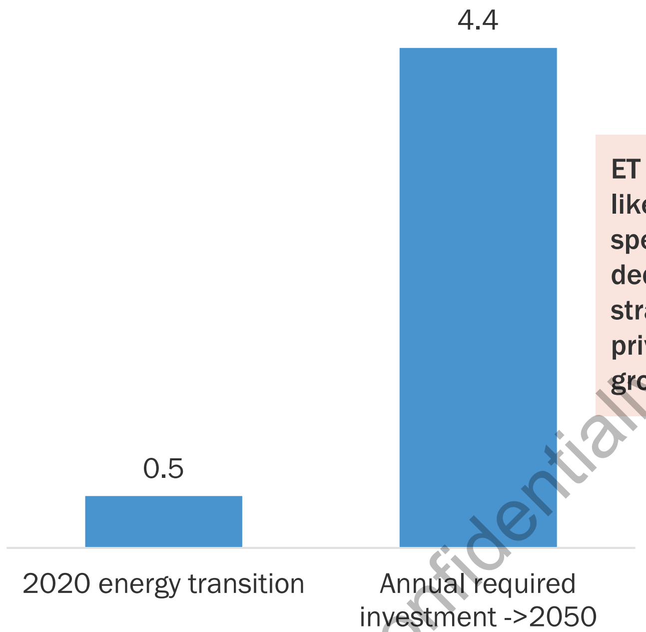
Energy: transition and security

Energy transition ("ET") fast becoming a new standalone asset allocation, whilst decarbonization is impacting the whole infra asset class

Whilst investible ET opportunities span both Infra, PE and beyond, the factors outlined below help illustrate why there is a compelling case supporting the ET gradually becoming an asset allocation in its own right

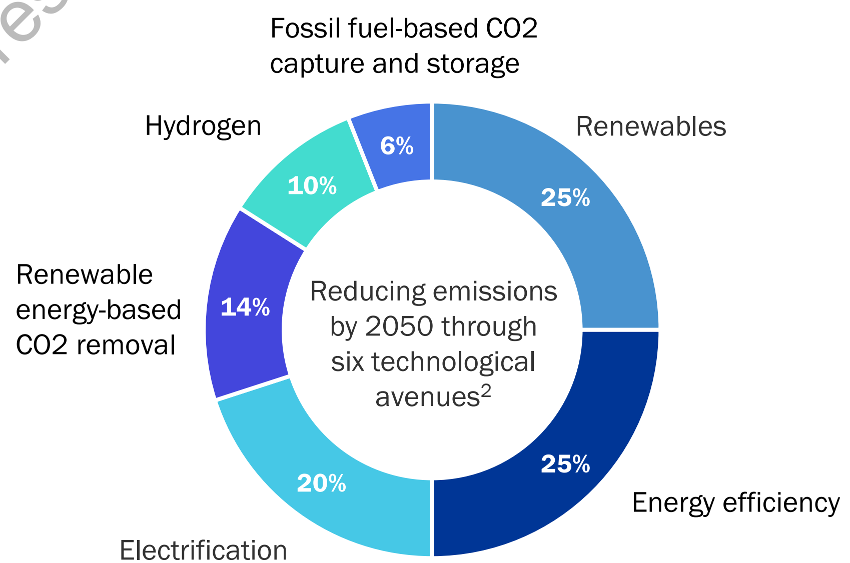
Amount of ET dedicated capital required

Energy transition investment: 2020 vs. projected requirements ($tn)[1]



ET investment gap will likely require specialist GPs, dedicated investment strategies and major private financing growth

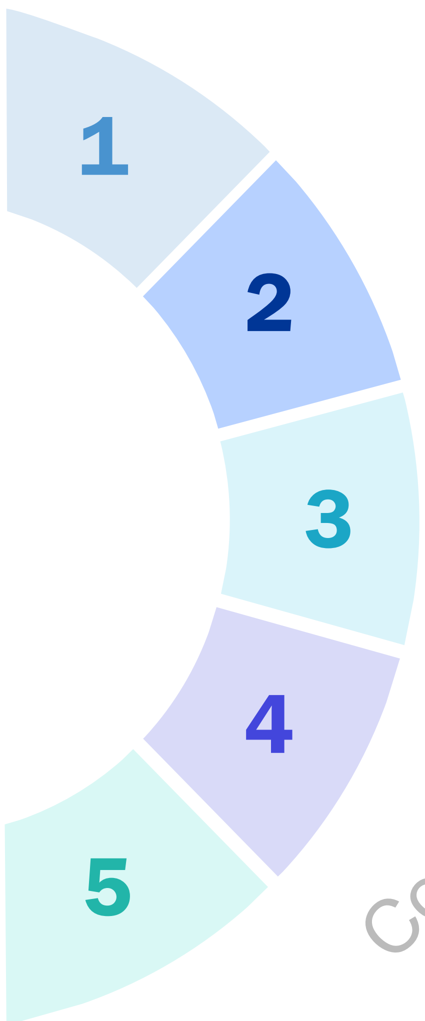
Uniform focus areas[2]



Despite being a broad term, spanning asset classes and sectors, IRENA considers the ET through a 6-pronged lens

1. IRENA World Energy Transitions Outlook as of June 2021
2. IRENA World Energy Transition Outlook as of March 2022

What are the drivers underpinning this trend?



Regulation

- US Inflation Reduction Act financially incentivises investors to pursue clean energy opportunities plus SEC introducing new reporting standards (albeit we note some pushback in certain US states and by various corporate net zero participants)
- Meanwhile in Europe, as more diversified infra products declare themselves Article 8, LPs also looking for Article 9 products which require active decarbonization / sustainability-driven objectives
- New legislation beyond Europe and the US, for example in Japan and Australia

Security of supply

- In addition to climate change, the Ukraine crisis has also brought urgency to the need for energy security
- Whilst many countries may use some additional fossil fuels in the short term to cope with the immediate energy crisis, there is a growing consensus that the war in Ukraine will undoubtedly accelerate the energy transition over the medium term

Corporate net zero goals

- Significant net-zero focus by corporates with many making firm, binding net zero commitments (see appendix)
- In order to meet these targets, many will need to radically change the way they use energy, providing significant opportunities for private capital investment

Stakeholder activism

- Increased stakeholder interest in the energy transition – whether its student pressure on endowments, principal-driven mandates at family offices or underlying client demands at wealth management platforms – encouraging portfolio managers to further explore ET opportunities

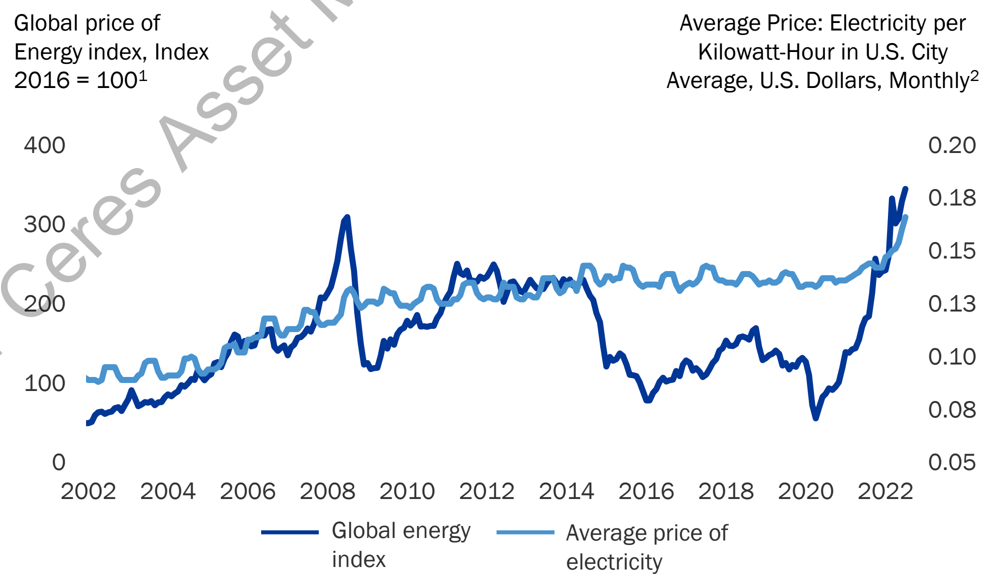
Investible opportunities

- Beyond traditional renewable generation, LPs are now recognizing the additional opportunities on offer across the supply chain – upstream, midstream and downstream
- In this context, specialist and generalist GPs are increasingly developing wider energy transition-focused products or segments within existing strategies

Energy transition and energy security: Market context

Commentary

- In addition to the urgent climate change agenda (e.g. extreme Texas weather events), the Ukraine crisis has also brought into focus the need for resilience in the global energy system
- In an energy security context, the Ukraine crisis is particularly relevant for European countries. For example, the EU is now seeking to ensure independence from Russian fossil fuels, starting with gas, well ahead of 2030
- Whilst many countries may use some additional fossil fuels in the short term to cope with the immediate energy crisis, there is a growing consensus that the war in Ukraine will undoubtedly accelerate the energy transition over the medium term



“ **We must become independent from Russian oil, coal and gas.** We simply cannot rely on a supplier who explicitly threatens us. We need to act now to mitigate the impact of rising energy prices, diversify our gas supply for next winter and accelerate the clean energy transition. **The quicker we switch to renewables and hydrogen, combined with more energy efficiency, the quicker we will be truly independent and master our energy system.**

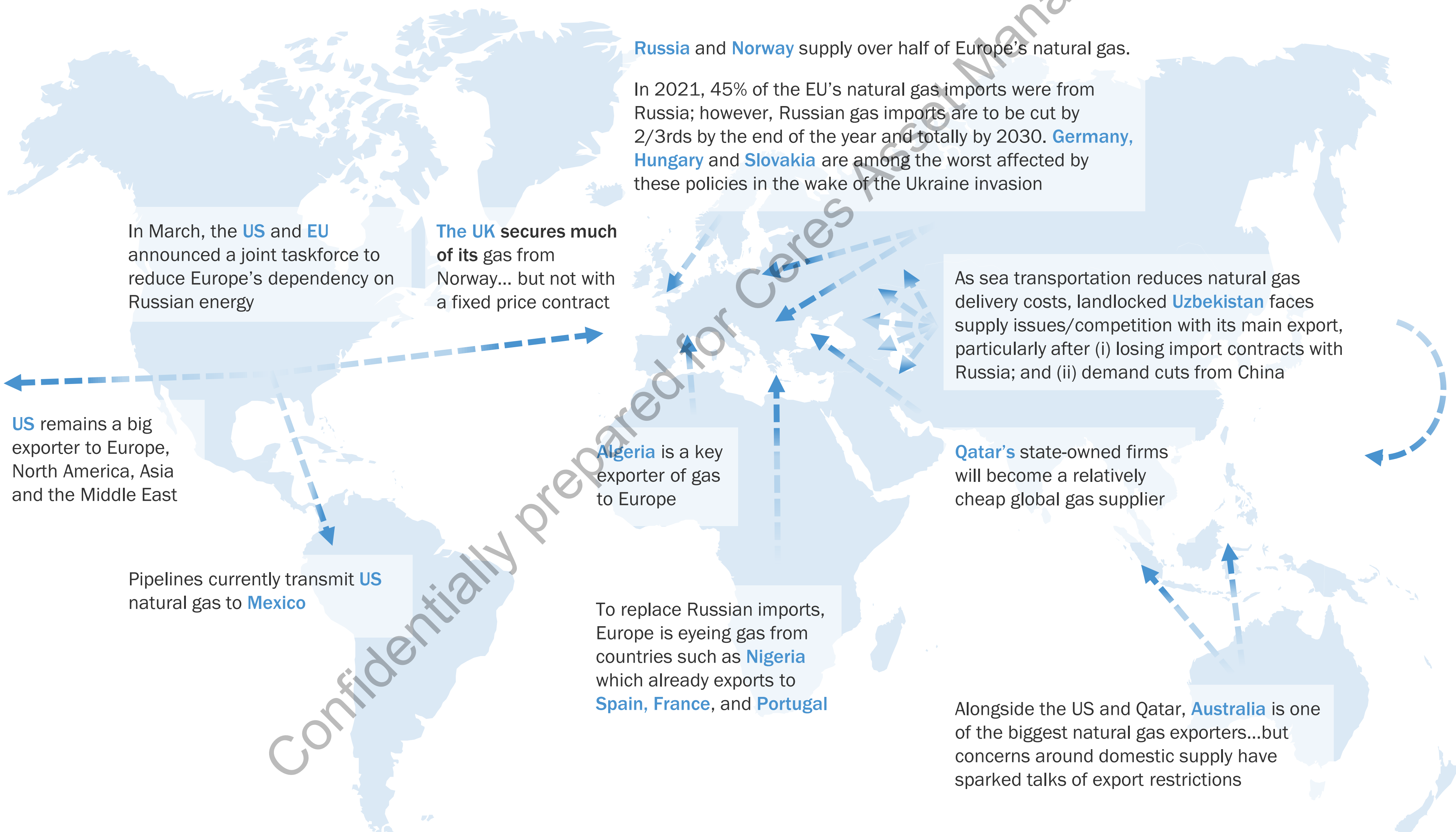
Ursula von der Leyen, EU Commission President

“ We've had this really strong policy push for energy transition towards non fossil fuels, but this trajectory I believe has been bent by the current events. **We see that energy security has entered the discourse about energy transition in a very strong manner.**

Anna Mikulska, a fellow with Rice University's Baker Institute for Public Policy

1) International Monetary Fund, Global price of Energy index [PNRGINDEXM], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PNRGINDEXM, September 19, 2022
2) Retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PNRGINDEXM, September 19, 2022

Energy security: Geopolitics of natural gas



Russia and **Norway** supply over half of Europe's natural gas.

In 2021, 45% of the EU's natural gas imports were from Russia; however, Russian gas imports are to be cut by 2/3rds by the end of the year and totally by 2030. **Germany, Hungary** and **Slovakia** are among the worst affected by these policies in the wake of the Ukraine invasion

In March, the **US** and **EU** announced a joint taskforce to reduce Europe's dependency on Russian energy

The UK secures much of its gas from Norway… but not with a fixed price contract

As sea transportation reduces natural gas delivery costs, landlocked **Uzbekistan** faces supply issues/competition with its main export, particularly after (i) losing import contracts with Russia; and (ii) demand cuts from China

US remains a big exporter to Europe, North America, Asia and the Middle East

Algeria is a key exporter of gas to Europe

Qatar's state-owned firms will become a relatively cheap global gas supplier

Pipelines currently transmit **US** natural gas to **Mexico**

To replace Russian imports, Europe is eyeing gas from countries such as **Nigeria** which already exports to **Spain, France**, and **Portugal**

Alongside the US and Qatar, **Australia** is one of the biggest natural gas exporters…but concerns around domestic supply have sparked talks of export restrictions

Sources: The Economist, The IMF, The BBC, The Financial Times, Reuters

Energy security: Focus on US LNG

LNG assets set to benefit from Ukraine crisis[1]

- Asia comprises the majority share of global LNG demand but European demand is growing as a result of the Ukraine crisis
- IEA notes that, in 2021, 45% of the EU's natural gas imports were from Russia; however, with Russian gas imports to be cut by 2/3rds by the end of the year and totally by 2030, European off-takers are looking to new suppliers[2]
- Existing LNG export facilities with expansion potential, especially those in the US, look set to benefit

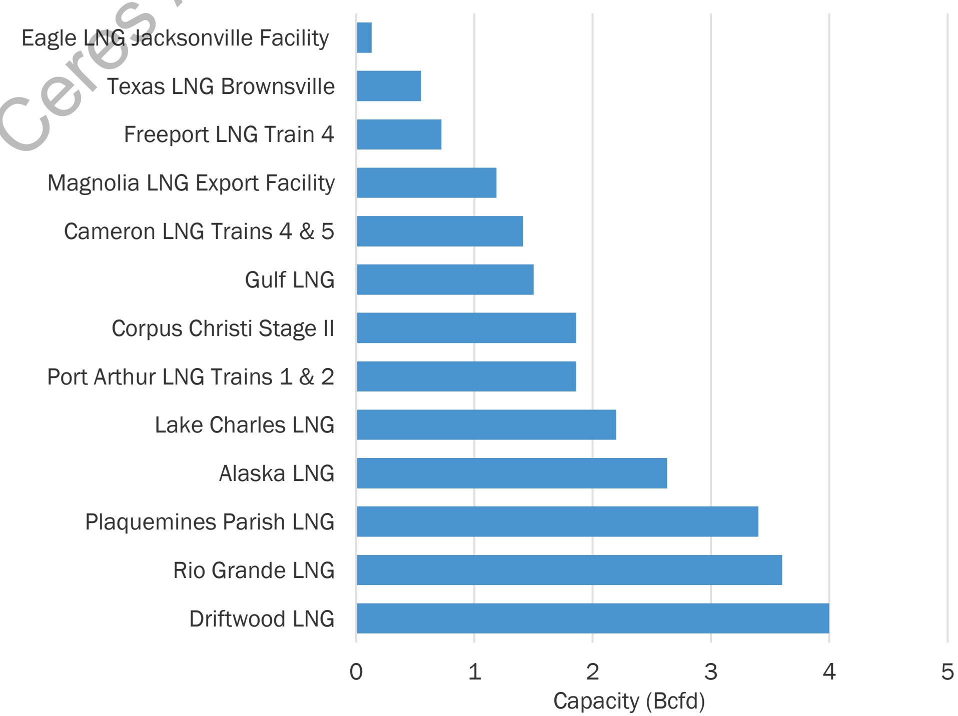
> LNG will be "the clear winner in this tragedy"
> **Michael Kumar, Morgan Stanley Global Head of Project Finance**

ESG perspective

- Whilst ESG-minded LPs have not shunned natural gas investments in the same way they have coal, such assets are often a DD point
- Europe's keenness to move away from Russian gas has shifted perceptions, with natural gas infra such as LNG export terminals becoming both more attractive and acceptable
- Natural gas was acknowledged in the latest EU taxonomy draft as a transitional fuel
- Openness for natural gas needs to be reconciled with the fact that investors don't build LNG terminals with 10- or 15-year lifespans… rather they are built and developed as long-term plays

LNG future pipeline[1]

13 Federal Energy Regulatory Commission (FERC) approved projects yet to begin construction



US LNG projects are expected to be well positioned to expand due to a renewed focus on energy security and a shift in LP attitudes as a result of the Ukraine crisis

1) Inframation, Russia's war spurs rethink of US LNG, March 2022; Data in chart prepared by Inframation as sourced from FERC
2) The International Energy Agency

LNG remains a focus for diversified value-add infra funds[1]

GLOBAL INFRASTRUCTURE PARTNERS

- **Example asset:** Freeport owns and operates an existing regasification terminal near Freeport, Texas, and a three-train liquefaction and export terminal
- **Relevant take-away:** One of a number of GIP LNG assets, Freeport well positioned in the context of the current macro environment, especially given the development angle discussed on the previous slide

Stonepeak

- **Example asset:** In October 2021 Stonepeak acquired Teekay LNG Partners, the world's third largest independent LNG carrier owner and operator. The deal was worth >$6bn
- **Relevant take-away:** Like many other infra funds, Stonepeak believe in the role of natural gas in the energy transition with LNG plants helping provide both the baseload and dispatchable power required to avoid extreme supply crunches[2]

Blackstone Brookfield

- **Example asset:** Cheniere (Texas) has one of the largest liquefaction platforms globally, which consists of the Sabine Pass / Corpus Christi liquefaction facilities (US Gulf Coast)
- **Relevant take-away:** Blackstone and Brookfield combined to acquire a 42% stake in September 2020 for ~$7bn; given the scale of these assets many are becoming more relevant for the mega funds

Whilst infra funds need to make the case for natural gas to their LPs and must be cognisant of potential exit routes, many believe in the role of natural gas as a transitional infrastructure as they seek to negotiate robust off-take agreements

1. Sources: Inframation (various articles)
2. Source: Inframation – "In-depth: GIP, Stonepeak, IFM, Brookfield weigh up global gas crunch" October 2021

Investible ET opportunities beyond traditional renewables

Upstream

01

- Renewable capacity additions to generate the requisite power from low-carbon / clean technologies

Midstream

02

- Grid upgrades and initiatives to accommodate rising share of variable renewable energy

Downstream

03

- Delivery of cleaner and more reliable power solutions by generating energy at the point of use
- Reducing the demand side through efficient energy solutions at the point of use

Case study: Anaerobic digestion[1]

SDCL

- Bio Town is an AD facility that currently converts cattle manure and food waste into renewable power
- Facility sells power under an 8-year take-or-pay fixed price PPA to NIPSCO (public utility)
- SDCL, via SEEIT's $31m investment, will increase the capacity of the AD plant and also install a commercially proven gas upgrading facility to enable the project to inject green gas into the grid

Case study: Hecate Grid[2]

InfraRed Capital Partners

- Infrared collaborated with Hecate Energy in 2018, forming the new North American, utility-scale, storage platform "Hecate Grid"
- The platform builds on 126 MWH of existing operating capacity plus a robust pipeline of opportunity
- This scale of battery storage will help grid networks to stabilize the availability of energy
- Also presents development opportunities, aided by the growing demand for standalone storage facilities, in the wake of climate-induced power outages (e.g. Texas winter storms in 2021)

Case study: Cars (Allego)[3]

Meridiam for people and the planet

- A leading EV charging company – operating 28,000 charging units across 12 countries
- It was bought by Meridiam in 2018 and floated on the NYSE in 2022, via a SPAC
- Subsidised by the European Commission it launched a regional interoperable ultra-fast charging network, focused on metropolitan areas– known as "Mega-E"
- Mega-E aims to deploy 322 ultra-fast charging locations, aiding the adoption of EV as the marketable universe grows

1. IPE Real Assets; Morningstar
2. InfraRed Capital Partners
3. Meridiam

Focus on: Green hydrogen

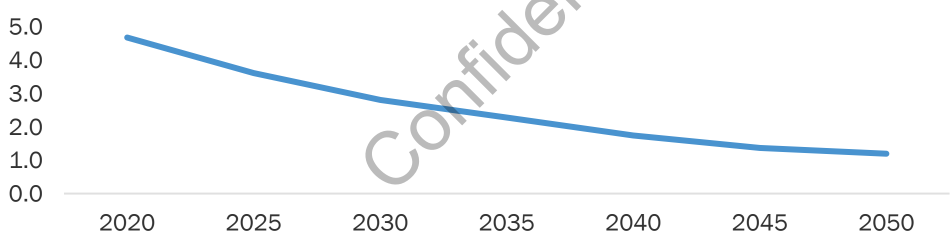
Overview

- Green hydrogen is produced through electrolysis of water (H20) into hydrogen and oxygen, a process which does not emit harmful emissions
- Contrasts with black and brown hydrogen, a more environmentally damaging process which relies on steam-methane reforming (SMR) to separate hydrogen from water and CH4
- Many hydrogen projects can be integrated within existing infrastructure; for example, networks can be upgraded to facilitate hydrogen transmission
- A shift to clean hydrogen is considered important to reaching net zero goals; current challenge for developers is finding creditworthy off-takers who can commit to long-term contracts

Example uses:

- Greener gas: Added to natural gas, it reduces the carbon concentration per unit of energy
- Electrification: Can help electrify buildings and make them more efficient
- Transport and storage: Hydrogen fuel cells have a higher driving range versus batteries

US green hydrogen estimated average cost (USD/KG hydrogen)[1]



Case study – Meridiam

- Meridiam partnered with Hydrogène de France (HDF) and SARA to build the world's largest hydrogen power plan in French Guiana, scheduled for completion in April 2024
- Project, relying on solar and hydro energy, will use hydrogen storage facilities to reduce intermittent energy provision; EDF has agreed a 25-year capacity contract
- An estimated 39,000 tons of CO^2 emissions per year will be avoided, compared to a thermal power plant

Case study – Hy24

- Hy24 Partners is a JV between Ardian and FiveT Hydrogen
- Following a 2021 launch, Hy24's Clean H2 infra fund has raised ~$1bn (Target of $1.5bn) to invest in upstream projects like green hydrogen production, and downstream projects such as captive fleet and refueling stations
- Investors to date include corporates such as Airbus, Air Liquide and Vinci

Case study – Macquarie

- Macquarie's Green Investment Group (GIG) has launched HyCC, a green hydrogen company, alongside Dutch chemical firm, Nobian
- JV aims to decarbonize, emission intensive industries (such as aviation and steel), by producing green hydrogen from renewable sources, at scale
- 400 MW of projects in the pipeline which focus on opportunities in the Netherlands

Sources: Infrastructure Investor; Inframation, Green Investment Group, Macquarie, Meridiam
1) PwC Research & Insights as quoted on Inframation

Decarbonisation case studies in the large cap space

GIP example: Access to the energy transition through a diversified fund, as well as cross-sector decarbonisation[1]

> GIP seeks to invest in critical, national and economic real infrastructure that aligns with thematic trends, including energy transition and positive decarbonization impacts
>
> **GIP**

Top 10 renewables operator

- Current renewables portfolio includes **~$18bn of equity invested or committed** across 18GW in operation, 20GW of operating royalty interests and ~175GW under construction development, or pre-FID (Financial Investment Decision)

Cross-sector decarbonisation

- Beyond its renewables capabilities, GIP recognises that decarbonisation is an opportunity for **all infra sectors**
- GIP therefore has a **unique decarbonisation strategy** for each of its assets, regardless of sector

50+ GIP team

- GIP has **50+ team members focused on energy transition infrastructure opportunities**

Brookfield example: Dedicated fund to address global energy transition separate from flagship: Global Transition Fund ("GTF")

> Half the fund will probably be us building out renewables - solar and wind largely - for industrial customers as they need to decarbonize. [...] The other half is going to be us providing capital into utilities and industrial companies globally that need to decarbonize.
>
> **CEO Bruce Flatt[2]**

Climate strategy first step

- GTF considered a first step in building an ambitious climate strategy through additional products at various risk-return profiles[3]

Business Transformation

- One of three themes will be business transformation to facilitate utility, energy and industrial businesses reducing CO_2 emissions and energy consumption

Decarbonising "dirty" businesses

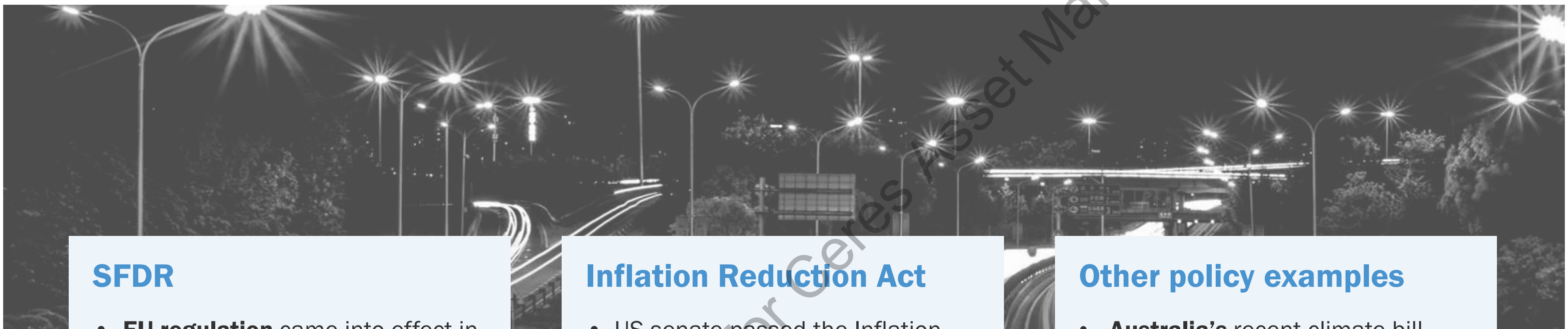
- GTF actively targeting coal and gas deals
- Brookfield Infra MD for Australia and NZ: "GTF not afraid to invest in businesses that have an emissions profile. The whole point of it is to do that"[2]

LPs can choose to access the energy transition either via diversified and specialist funds.
Huge risk-reduction / return enhancement potential in decarbonising non-power-related assets (e.g. transport, social infra, digital etc.).

1) Source: GIP
2) Source: Inframation
3) Source: New Private Markets

Regulatory intervention

Infra poised to be impacted by regulatory tailwinds / headwinds



SFDR

- **EU regulation** came into effect in March 2021 and applies to private market participants, including global managers, wishing to market products in Europe
- **Article 8 funds enroute to become the new normal for large-cap players**, requiring pre-contractual and ongoing ESG disclosure
- Whilst this is promising, **too much clustering** around the Article 8 mark may defeat the purpose of the regime unless genuine commitments are maintained

Inflation Reduction Act

- US senate passed the Inflation Reduction Act of 2022 – featuring **major healthcare, energy, and climate change provisions**
- Bill included roughly **$369bn in incentives** for energy and climate-related programs
- Aims to lead to a **6.3 billion tonne reduction of cumulative greenhouse gas emissions by 2030,** amounting to a 40% annual emissions reduction compared to 2005 levels

Other policy examples

- **Australia's** recent climate bill aims to **cut emissions by 43% by 2030** – at present, there is little detail on how carbon reduction targets will be achieved[1]
- **EU** is working on additional climate, energy and transport legislation, **the Fit for 55 package** – a suite of initiatives aimed at decarbonizing Europe's most energy intensive activities – e.g. promotion of EV transport infrastructure, charging for pollution etc

Sources: 1) Reuters; 2) European Council

Inflation Reduction Act of 2022: US Government outlines substantial green infrastructure plans

Select policy area review in an energy transition context

1 Energy infrastructure

- Energy Infrastructure Reinvestment Financing
- Providing $5 billion to finance up to $250 billion in projects for energy infrastructure
- Projects include repurposing or replacing energy infrastructure

2 Renewable energy

- Providing $100 million for offshore wind projects, including development and optimising the interregional integration of electricity produced by offshore wind
- Production Tax Credit (PTC) is extended to projects (wind, solar, geothermal, biomass, hydropower) beginning construction before January 1, 2025

3 Industrial decarbonisation

- Provides support to help decarbonise the harder to abate industries
- $5.6 billion programme – running until September 2026
- Program covers purchasing or implementation of advanced industrial technology or upgrading of the current facility

4 Hydrogen

- Green hydrogen, red hydrogen, and grey hydrogen will receive a tax credit of $0.60 per KG of hydrogen production – up to $3 per KG if wage & apprentice requirements met
- Green hydrogen producers are able to combine the tax credits for renewable power generation facilities with the specific hydrogen tax credits

5 Carbon capture

- Extends the carbon capture tax credit to include facilities that start construction before 2033
- Increase to the tax credit received – earning up to $85 per metric ton of CO2 sequestered (previously $50) and up to $60 per metric ton of CO2 which is buried during the process of oil extraction (previously $35)

6 Electric vehicles

- $7,500 income tax credit for new EVs and $4,000 for previously owned EVs
- 30% tax credit for the purchase of clean commercial electric vehicles as well as $1 billion in grants for the purchase of clean heavy-duty vehicles
- Bill lifts the cap on the total number of tax credits that automakers

Sources: Whitehouse.gov; White & Case

Sustainable Finance Disclosure Regulation (SFDR)

Overview

Article 6

Article 6 captures funds without a sustainability scope

Article 8

Article 8 captures financial products (i.e. funds) that promote environmental or social characteristics

Article 9

Article 9 captures financial products with sustainable investment as its objective

Feedback

> Article 6 funds without a formal decarbonization commitment will be difficult for them going forward
>
> **German asset manager**

> Highly unlikely to be investing in Article 6 funds from 2023
>
> **European corporate investor**

> Article 8 funds are likely to become the standard classification – they are the minimum classification for our investment programme
>
> **European insurance firm**

> Expecting most infrastructure funds coming to market to be either Article 8 or Article 9 funds
>
> **Swedish bank**

> High priority to be investing in more Article 9 funds
>
> **APAC sovereign wealth fund**

> Focused on Article 9 investments from H2 2022 onwards
>
> **US asset manager**

Strictly private and confidential

Select mega trends

Focus on: Digital infrastructure

Trend: De-risk to core

- Certain value-add GPs with digital exposure have de-risked these assets to the extent they are now relevant to core buyers

Trend: Energy transition play

- Digital assets such as datacentres are typically very fuel hungry
- Opportunity to "green" these assets with sustainable fuels

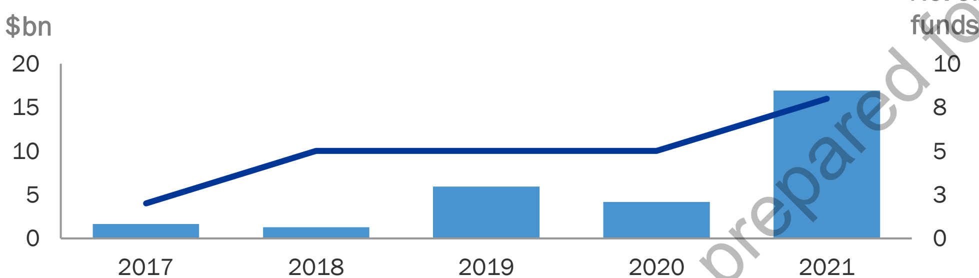
Trend: Valuations

- Initial concerns that assets were expensive / over-valued
- Belief pricing will move to reflect discount rate adjustments
- "Yesterday's pricing" a concern in current market

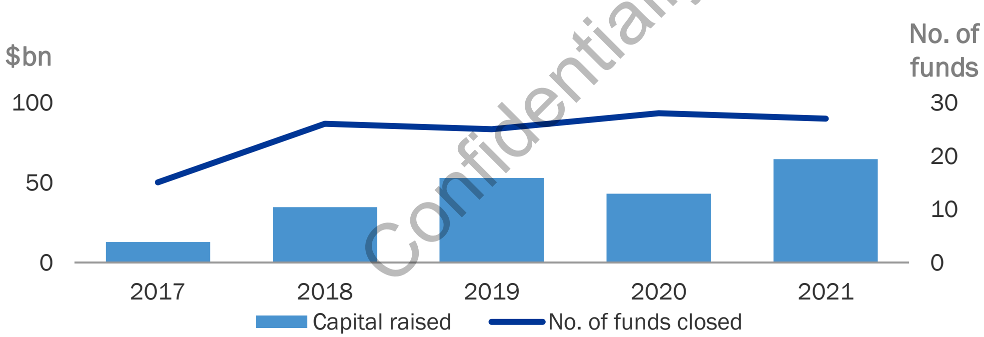
Trend: New risks/opportunities

- Telecommunication upgrades (5G & fibre) gaining momentum
- Cyber security threats put renewed pressure on GPs to protect current systems

Capital raised by digital-only vehicles has seen a marked uptick since 2019[1]



Capital raised by vehicles that include digital infra in their remit[1]



Select specialists

DigitalBridge, Berkshire Partners, Novacap, GI Partners, Great Hill Partners, Grain Management, SDC Capital Partners, Peppertree Capital, Searchlight, Melody

Select generalists with digital exposure

EQT, Antin Infrastructure Partners, Global Infrastructure Partners, Manulife, InfraVia, Arcus Infrastructure Partners, Stonepeak, Brookfield, Morgan Stanley, AMP Capital, Asterion Industrial, Goldman Sachs, Blackstone, KKR, Partners Group, IFM Investors, DIF, 3i, Basalt Infrastructure Partners, Ardian, I Squared Capital, Macquarie, Apollo, Fiera Infrastructure

1. Source: Infrastructure Investor

Focus on: Globalisation dynamics

Analysis

- Trade has declined as a proportion of GDP having peaked in 2008[1], with various elements challenging further global integration:
  - Continuing US / China tensions and the Ukraine crisis;
  - Post-COVID supply chain considerations (onshoring / nearshoring / "friendshoring"[2] vs offshoring);
  - Volatile global macro environment
- However, record-high trade volumes persist[3] and global FDI flows recovered quickly after the pandemic to $1.8tn, 37% over pre-pandemic levels[4]
- During COVID, port operators (unlike airports, for example) proved their resilience and port throughput levels continue to remain robust
- We expect port infrastructure to remain popular with diversified infrastructure funds going forwards

Case study: TIL[5]

- **Asset overview:** One of the largest container terminal operators globally across 27 countries

Relevant take-aways

- Further example of a large-scale port now considered "de-risked to core". GIP owned TIL via GIP II and established a continuation fund (alongside certain LPs) to continue to retain exposure to a high-quality asset
- Innovative example of how GPs can continue to retain exposure to high-quality assets whilst crystalising value as part of a market tested process

GLOBAL INFRASTRUCTURE PARTNERS

1) The World Bank, Trade (% of GDP) 1960-2021
2) "Friendshoring" or "allyshoring" – manufacturing and sourcing components and raw materials within a group of countries with shared values
3) Financial Times - Deglobalisation: will backlash against Russia lead to downturn in open trade? Apr 2022
4) OECD – FDI in Figures, April 2022
5) Inframation

Focus on: demographic changes and social infrastructure

Trend	Example
Continued urbanization • Today, around 55% of the world's population lives in towns and cities…this figure is expected to increase to c.70% by 2050 • Speed and scale of urbanisation present challenges in ensuring the availability of adequate housing, infrastructure and transportation	**Case study: Meridiam Urban Resilience Fund** • **Overview:** New fund designed to invest in critical public services, sustainable mobility and innovative low carbon solutions • **Relevant take-away:** Product specifically designed to serve urban dwellers in a time of rapid urbanization and in the wake of threats such as intensified climate change
Silver economy • Longer life expectancies and falling birth rates across Europe and Eastern Asia are skewing dependency ratios • Infrastructure is required to meet demographic shift requirements with certain areas of this trend (e.g. elderly care, specific education assets) being funded by value-add infra funds	**Case study: EQT Infra V** • **Overview:** Following its investment in New Zealand retirement home company (Metlifecare) in 2020, EQT Infra V invested in the Stockland retirement business (Australia) in Feb 2022 • **Relevant take-away:** Underpinned by growth trends in the silver economy, retirement businesses are now firmly part of the social infra fold
Education • Private education and special needs schools are attracting infrastructure capital • Critical issue is high degree of political sensitivity and public scrutiny over cost and efficiency of services	**Case study: Antin IV** • **Overview:** Antin IV has continued the firm's tradition in social infra investing by making an acquisition in the education space: French nursery operator "Babilou" in late 2020 • **Relevant take-away:** Antin engaging in an M&A driven platform building strategy having recently acquired relevant bolt-ons in Germany and the Netherlands

Sources: The Economist, IPCC, Inframation

Infra secondaries

Infrastructure secondary market key themes

1 Busy infrastructure market

- Despite the macro environment, infrastructure secondary activity has not abated leaving some investment teams heavily resource-constrained
- Buyers are increasingly selective of which opportunities they decide to pursue, preferencing familiarity, quality, and clear investment angles

2 Strong activity levels anticipated for Q3/Q4

- The pipeline for infrastructure secondaries remains strong
- Although buyside ICs remain cautious, the buyside is nevertheless well capitalised, with significant dry powder available (and more expected in the near-term)

3 Continued appetite for LP portfolios

- Although they remain a minority in the infrastructure market, LP portfolios remain highly sought after as they offer diversified and risk-adjusted secondary exposure / returns (relative to concentrated GP-leds transactions)
- LP-leds expected to feature heavily in H2 as institutions look to de-risk or manage allocation issues

4 Increased valuation scrutiny

- Current macro-economic environment is driving buyers to heavily scrutinise entry valuation multiples
- GPs need to demonstrate the appropriateness of their valuations, as well as assets' resilience considering nervousness of a potential near-term recession

5 Inflation concerns

- Inflation concerns have awoken interest in inflation-linked investing
- Real assets have historically been seen as a "safe haven" for investors in an inflationary environment and investors are now eager to observe whether the inflation-hedging thesis will hold

6 Managers seek to secure follow-on capital

- Increasing number of GPs are exploring secondary solutions (continuation funds, strip sales, annex funds, etc.) to secure follow-on capital to support their assets value creation trajectories, beyond the CAPEX auto-financed by free cashflows

Sources: CL analysis

Strong infrastructure secondaries market in 2022 with pricing remaining robust

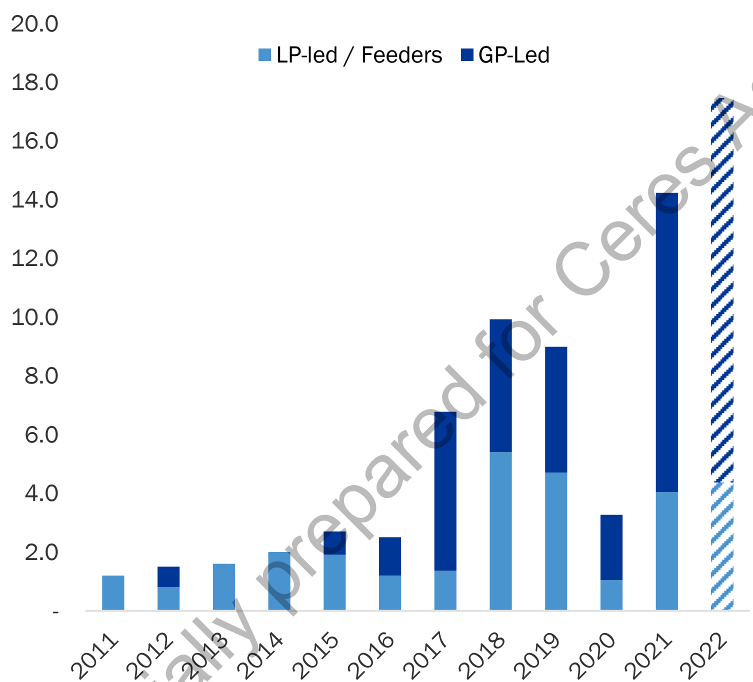
Along with secondary transactions as a whole, **infrastructure secondaries volumes have grown rapidly over recent years**

GP-led transactions in the space have also grown to form a substantial part of the market although **an increase in LP portfolio sales is occurring**

After a strong first semester, **the 2022 volume could exceed $17bn, although wider market impact will likely see some volume push to 2023**

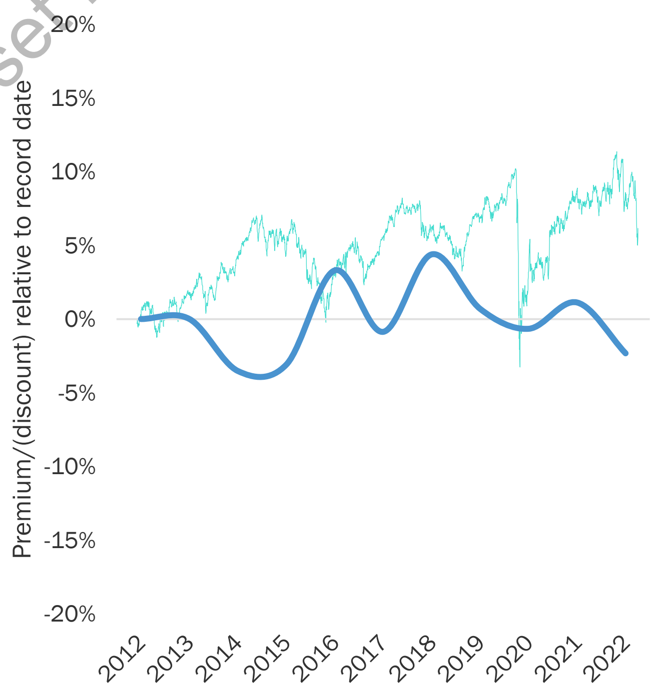
Pricing in infrastructure secondaries has remained **robust relative to other asset classes although, increased supply and public market impacts are leading to some softening for certain sectors**

Infrastructure secondaries transaction volume (US$'bn)



- While there was a dip in infrastructure transactions in 2020 as a result of COVID, volumes have strongly rebounded in 2021 / 2022
- After a strong first semester, the 2022 volume is expected to exceed $17bn, with a focus on GP-led activity

Pricing[1] in CL's infrastructure secondaries mandates (overlaid with infrastructure index)



- Pricing for infrastructure secondary transactions has remained strong across the years. This is against a backdrop of generally increasing prices over the same period
- Some softening in pricing is recently being observed due to supply / demand imbalance, impact of public markets and concerns over terminal value assumptions
- Overall infrastructure pricing is nevertheless holding up strongly compared to other asset classes, and remains around par for inflation-protected assets

Source: CL research 2021; S&P
1: 2022 pricing includes both completed transactions and bids received

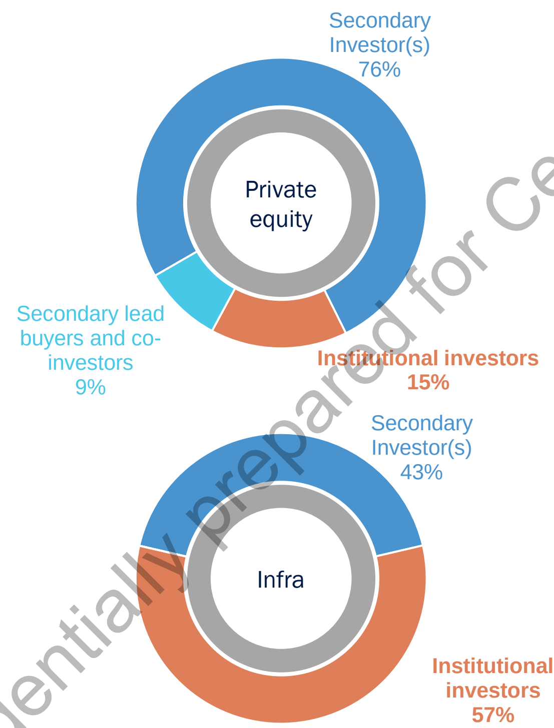
Significant new entrants on the buy-side with increased breadth

Alongside traditional secondary investors, the infrastructure secondary market includes a significant number of **sophisticated institutional investors with a lower cost of capital**

The market has also attracted a number of **recent new entrants, including several very substantial investors**

The majority of the buy-side find it important to **balance their book across GP-led and LP-led opportunities**

Investors in CL transactions (PE vs. infra)



- While the PE secondary market is dominated by secondary specialists, the infrastructure secondary market includes a significant number of sophisticated institutional investors with a lower cost of capital

Established buy-side participants

Strategic Partners Fund Solutions, Pantheon, Goldman Sachs, HarbourVest, GCM Grosvenor, PSP Investments, Landmark Partners, Ardian, Stafford Capital Partners, Lothian Pension Fund, Aberdeen Standard Investments

- Established buy-side participants for infrastructure secondaries include secondary specialists in addition to a number of sophisticated institutional investors with a lower cost of capital

Recent buy-side entrants

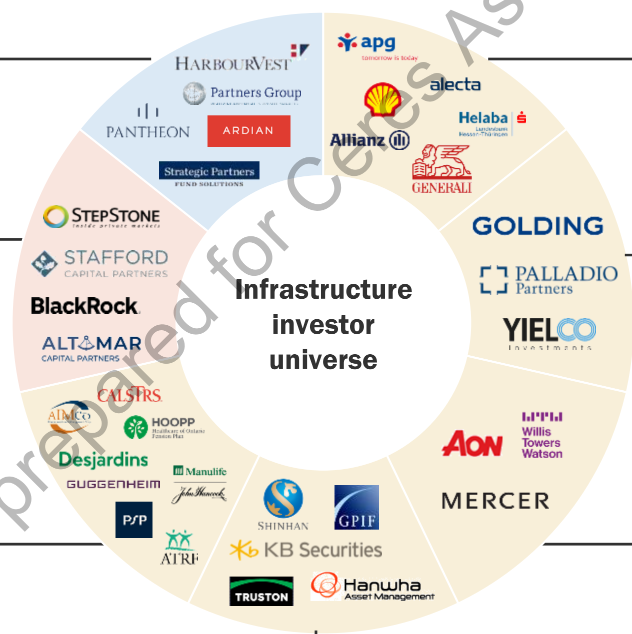
Apollo, Brookfield, Morgan Stanley, Hamilton Lane, Neuberger Berman, Macquarie, HOOPP Healthcare of Ontario Pension Plan

- Apollo, Brookfield, Morgan Stanley, Hamilton Lane, Neuberger Berman and Macquarie represent notable recent entrants to the secondary buy-side universe
- HOOPP is also a meaningful addition to the institutional investor sphere

Source: CL research 2021

Investor universe for infrastructure secondaries

Infrastructure investor universe segmentation – select investors only



Large secondary funds with 'pockets' for infrastructure

- Relative newcomers to infrastructure with significant ‘dry powder’
- Hurdle rates of return likely to be higher, but often willing to pay for potential upside

Infrastructure FoFs with SMAs

- Increasingly able to invest from SMAs & infra-focused vehicles at lower returns
- Significant interest seen to-date in LP and GP-led secondaries

North American investors

- Although the majority of Canadian investors are prioritising direct exposure, some of the larger groups are looking to participate in GP-led transactions. Smaller players have appetite for both LP and GP-led secondaries
- Significantly increased interest in secondaries from US investors, although more generally focused on value add and core plus opportunities

European institutional investors

- Demand anticipated from other European institutions
- Appetite for yield-based infrastructure exposure through managed fund structures

German FoF / Gatekeepers

- Cash yield is the key driver
- Very familiar with PPP and renewables
- EUR interest and demonstrable expertise in the space

Asian capital

- Asset management companies are key to accessing and driving demand from Asian insurance and other institutional investors (principally in Japan and Korea)
- Very competitive cost of capital, with strong demand for core & yielding infrastructure

Consultants

- Hard to generalise about interest levels from other consultants – depends on underlying clients
- Varying degrees of expertise in infrastructure, but often able to aggregate smaller ticket institutional investors

LPs’ use of the secondary market across pensions and endowments for active portfolio management is growing

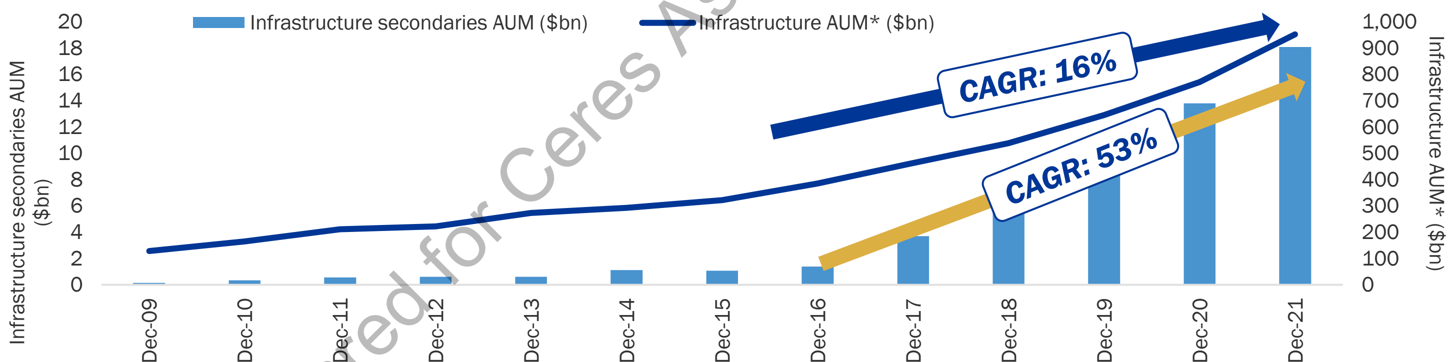
The primary market for **unlisted infrastructure funds has grown substantially in recent years** (16% annualised growth since 2016)

Nevertheless, the **growth in capital for infrastructure secondaries has far outstripped this** with 53% annualised growth, evidencing a well-capitalised buyside

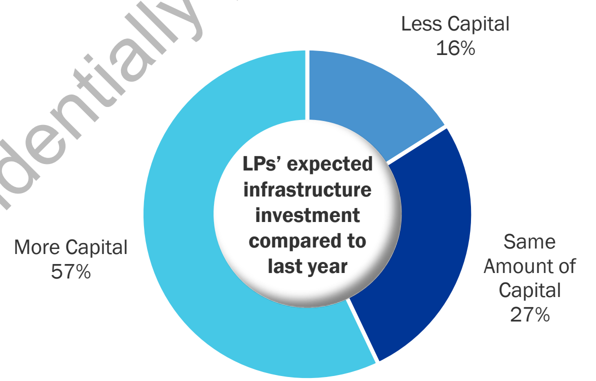
Whilst net capital flows into infrastructure continue to increase, **growth in secondaries volumes being driven by a trend towards actively managing portfolio allocations** – exiting non-core relationships / strategies, or older vintages

Pensions and endowments are anticipated to **account for almost 50% of LP sellers** in the next 12-24 months

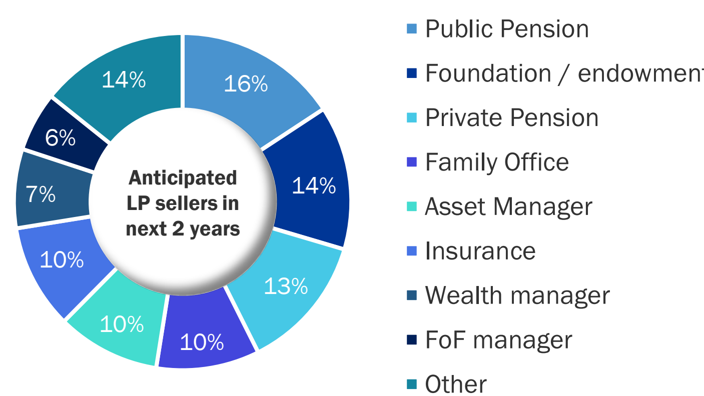
Despite strong growth in private market infrastructure AUM in recent years, infrastructure secondaries AUM has far outstripped this



Anticipated to continue growth based on investors’ planned deployment



Pensions and endowments are anticipated to account for almost 50% of LP sellers



Source: Preqin. * Excluding secondaries volume

GPs continue to leverage the secondary market providing LPs with alternative liquidity solutions

High quality infrastructure GPs have been using continuation fund trades as a means to **secure additional economics and extended runways** for some of their **highest quality assets**

Given the focus on strong assets, a significant proportion of the continuation fund trades have been **single-asset or highly concentrated multi-asset portfolios**

Demand for asset resilience post crisis from secondary investors has resulted in appetite for infrastructure GP-led opportunities

Select single-asset deal examples

Blackstone, Global Infrastructure Partners, Oaktree, Riverstone

Select multi-asset deal examples

Corsair, DIF, DWS, Denham Capital, InfraRed Capital Partners

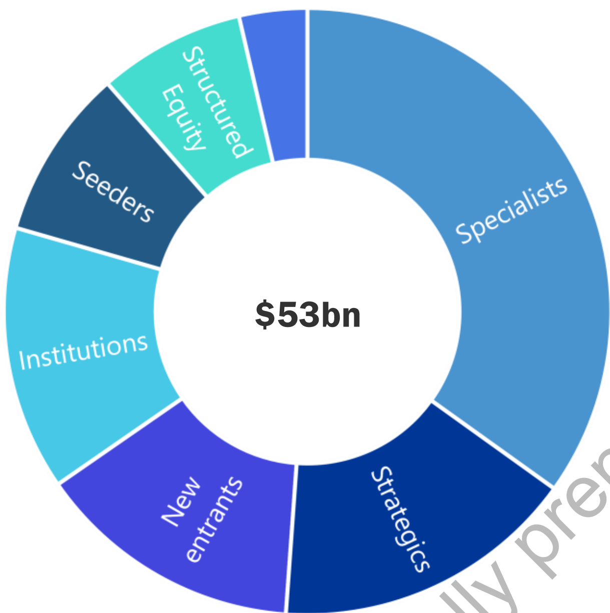
Star assets	• Secure additional runway to capture future growth rather than selling, potentially to another sponsor / competitor
Duration	• Allows GP to align with other shareholders or JV partners who may have different time horizons or if there is an opportunity to retain an interest in a partial sale to a strategic buyer
Exit environment	• Provide alternative solution when "normal" exit routes are not attractive in the short term and potentially where there may be opportunities for attractively priced add-on acquisitions
End of fund life	• Solves for funds which are approaching the end of normal 10 year life or are in one of the typical two, one-year extension periods
Longer hold	• Provides more time to grow a company, complete acquisitions, integrate prior acquisitions, deal with management change or wait for better exit markets
Additional capital	• Potential to raise additional capital to fund growth or add-on acquisitions
Liquidity option	• Provide LPs with the option to either crystallise their returns or roll their investment into new vehicle and benefit from a longer hold
Economics for the GP	• Crystallise / de-risk existing carried interest, achieve new fund economics (carried interest and management fees) and potentially reallocate carry

Source: CL research 2021

GP Capital Advisory

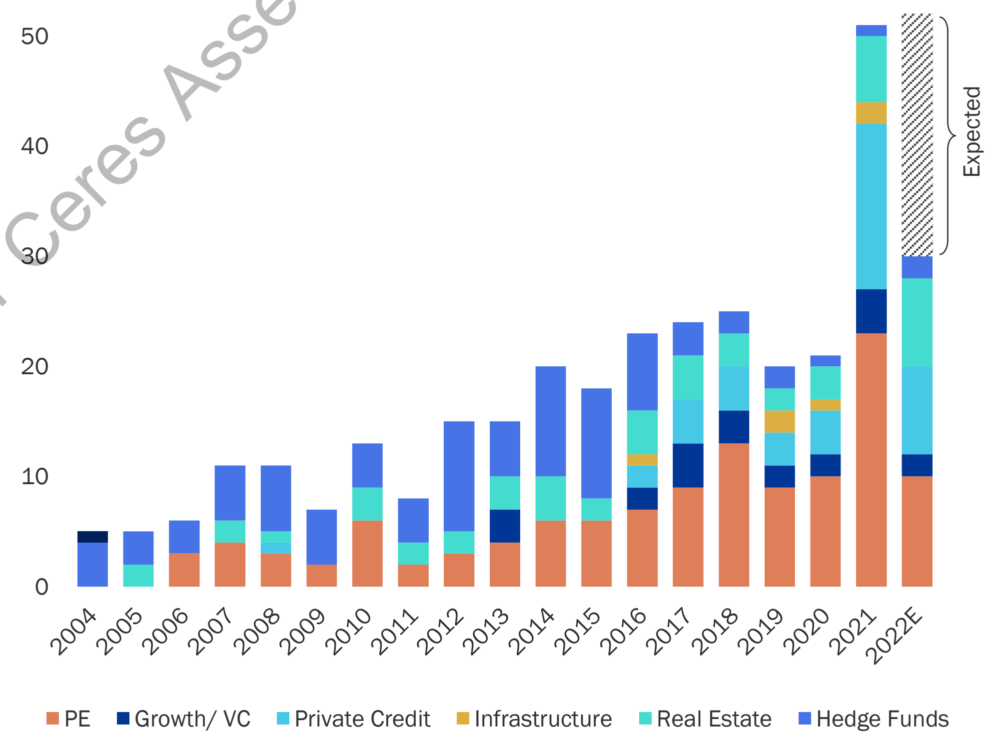
GP Capital – Minority transactions market

GP Capital estimated dry powder



- $53bn of capital of which:
  - $40bn is available for investments
  - 50% is relatively opportunistic
- Est. $8-$12bn invested per year
- Growing number of new entrants, both specialists and institutional investors

Number of minority stake transactions



- PE has dominated the market since 2016 but infra is now on the radar
- Covid has had a limited impact on market activity
- 2022 adverse macro has not yet impacted this market
- Lack of IPO and debt financing actually positively stimulating the market

Source: Campbell Lutyens GP Capital Advisory research, 2022

Key private market dynamics

GP Capital market dynamics

Strong dealflow

- 2021 was a record year by number of transactions[1]
- GPs are fiercely competing to grow AUM and better finance their Manco as well as fighting to retain talent

Increase in levels of GP capital available

- More and more capital targeting the opportunity – from both specialist and non specialist investors
- Large platform with material level of cash on balance sheets

Valuations

- Cost of capital is trending up, with different solutions available
- Trading multiples from listed private market managers trending down, but less than in other sectors, reflecting locked-up capital and cash-flow visibility

Buy-side / investor perspective

Pacing constrained

Whilst there remain record levels of dry powder, certain investors are facing strong level of dealflow, albeit operating with relatively small investment teams

Selectivity

- Minority investors focused on portfolio constructions
- Strategic investors generally after AUM growth and less selective

Preference "hot sectors"

1. Healthcare
2. Credit
3. Infrastructure
4. Secondary
5. Sustainability/Impact
6. Technology

Deal structuring

- Earn-outs linked to fundraising success
- Equity retention pool for key investment teams

2022/2023 key trends

1. GP thinking **more strategically** / focus on accelerating growth
2. Record high level of **M&A** activity in private markets expected despite currently adverse macro
3. Focus on building access to **HNW/retail distribution channels**
4. Increase in "**transactional fundraising**" (combining secondary and primary capital)
5. Potential increase in number of **spin-out teams** despite a stressed fundraising market

1) Source: CL analysis

Market dynamics – investors' perspectives

More and more capital focused on the opportunity

- Successful fundraising for most specialists
- Strategics seeking to access private market strategies
- More institutional capital focused on the opportunity

Broadening of private market asset classes

- Buy-side investing beyond its traditional hotspots:
  - Infrastructure
  - Private credit
  - Growth
  - Venture

Target AUM threshold coming down

- Combination of asset class and growth trajectory Is overtaking the AUM threshold criteria
- 1st time fund seeders are 'back with a vengeance'

ESG Amplification

- Focus shifting to:
  - GP investment processes
  - Emphasis on sound GP governance
  - Reputation risk

MOIC vs Yield

Exposure to fund managers seen as an attractive mix

- Access to private market yielding assets
- Ability to hold assets longer-term
- Evidence of a developing markets for final exits

Stimulated by solid public comps

- Listed PE has weathered Covid
- Strong post IPO performance of most listed AM
- GP specialists floating - Blue Owl/Dyal, GS/Petershill Partners, P10/Bonaccord

Selected minority/majority/IPO transactions in the infrastructure asset management sector

Minority transactions

- ✓ Astare invests in Quintana Infrastructure & Development (2022)[1]
- ✓ Bonaccord invests in Bernhard Capital (2021)
- ✓ ARA Asset Management invests in InfraRed Capital Partners (2021)
- ✓ Volery invests in SDCL (2020)
- ✓ Manulife invests in Albamen Capital Partners (2020)
- ✓ Kudu invests in Channel Capital (2020)
- ✓ Vestas invests in Copenhagen Infrastructure Partners (2020)
- ✓ Dyal (Blue Owl) invests in Quantum Energy Partners (2020) [2]
- ✓ Volery (Alongside Co-Investor Group) invests in Renewable Resources Group (2018)
- ✓ Wafra invests 31.5% in Digital Colony Management (2020)
- ✓ Dyal invests 15% in Carnelian Energy Capital (2020)
- ✓ Dyal invests in I Squared Capital (2019)
- ✓ Goodhart Partners (Volunteer Park Capital Fund) invests in Albright Capital (2019)

- **Historically a limited number of transactions relative to PE and real estate but growing interest from the buy-side**
- **Several investors have exposure through energy focused managers who have are pivoting into infrastructure offerings**
- **However, investors remain less familiar with the segmentation of the infrastructure fund manager universe compared to PE or real estate**

Majority transactions

- ✓ Foresight Group acquires Infrastructure Capital Group (2022)
- ✓ DigitalBridge Group acquires AMP Capital (Infrastructure Equity Business) (2022)
- ✓ Ares Management Corporation acquires AMP's PrivateMarketsCo Infrastructure Debt platform (2022)
- ✓ Schroders acquires 75% of Greencoat Capital (2022)
- ✓ Colliers acquires Basalt Infrastructure Partners (2022)
- ✓ Patrizia acquires Whitehelm (2021)
- ✓ Nuveen acquires Glennmont (2021)
- ✓ Sunlife acquires InfraRed Capital (2020)
- ✓ Orix acquires Gravis Capital (2020)
- ✓ Great West Lifeco acquires 49.5% of Northleaf (2020) [2]
- ✓ Swiss Life acquires Fontavis (2019)
- ✓ LeggMason (Franklin Templeton) acquires eClearBridge (2018)
- ✓ Northill acquires Vantage infrastructure (through the acquisition of Hastings) (2018)

- **Certain infrastructure fund managers struggle to scale up their operations**
- **Appetite for acquisitions from strategic investors and large asset managers has grown**
- **Positive market dynamics will continue to drive current trend**

Public offerings

- ✓ Pantheon plans listed infrastructure fund IPO (2021)
- ✓ Antin infrastructure IPO (2021)
- ✓ Digital/9 Infrastructure IPO (2021)
- ✓ EQT IPO (2019) [2]

- **Level of IPOs remains limited to date compared to minority private investments into fund managers**

Notes: 1) Seed financing – not a pure minority GP sale
2) Private markets / energy fund manager with infrastructure offerings/managers developing infrastructure strategies;

Minority investors – what they bring and what they need

Common set of key criteria sought by most investors, yet transactions tend to be very bespoke and solve for different GP requirements

What does the buy-side bring to the GP?

Stable Shareholder

Best-practice governance

External pricing point

Profile Raising

LP Capital

Expectations of LP capital commitments alongside GP stakes, yet not always a key element of minority transactions

Added-value Services

Smaller scale fund managers seeking support to accelerate growth / internationalization of their GP platform with the support of the partnering investor

With the growth of the GP capital investing market, investors are becoming more flexible in their investment criteria, yet growth remains a key priority in attracting GP capital

What does the buy-side look for?

Thresholds are lowered for most specialist investors, ie. $2bn

Momentum of fundraising and evidence of growth plans are key

AUM

GROWTH STRATEGY

QUALITY OF LP BASE

SOUND GOVERNANCE

SYNERGIES *(FOR STRATEGIC INVESTORS)*

REPUTATION

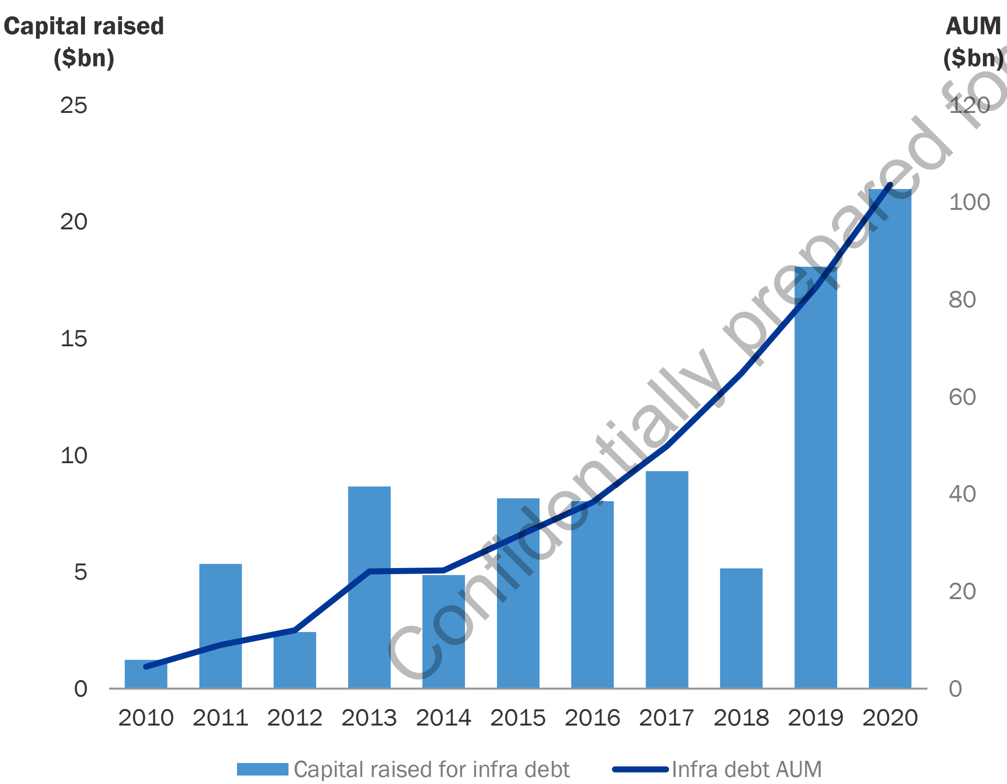
Source: Campbell Lutyens GP Capital Advisory research, 2021

Infra credit

Infra credit overview

Whilst it is harder to determine a clear fundraising trend for infra credit strategies, AUM growth has remained steady since 2010[1].

Capital raised for infra debt strategies vs. Infra debt AUM



Source: Preqin – CL analysis, Infrastructure Investor

Key trends

Established PE and Infra managers are turning to infra debt as a new product vertical

- **Barings** closed its inaugural infra debt fund (2022, $630m), targeting junior and senior lending opportunities, with target returns of 6 to 7%
- **F2i** held a first close for its inaugural infra debt fund in August 2022
- New players are entering the junior infra credit space, supplementing existing managers who are now offering higher yielding products
- More specifically, **new players are entering the junior infra credit space**, supplementing existing managers who are now offering higher yielding products

Long term nature of private credit infra investing increases the need for it to become ESG aligned

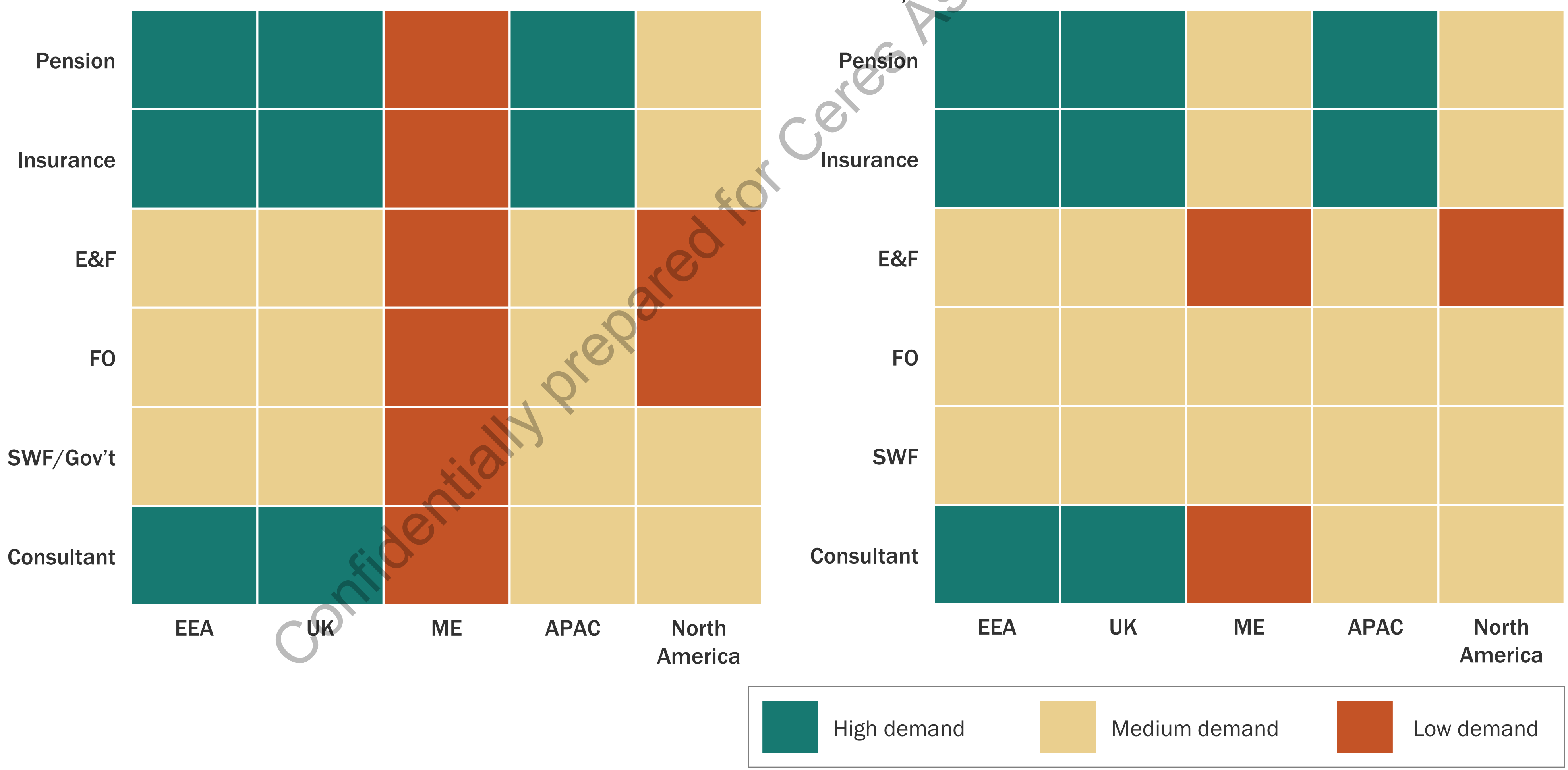
- Debt will be the main source of transitioning finance
- In 2021, **DWS** launched a dedicated ESG infra debt fund, targeting €500m, which will focus on assets such as renewable energy, clean mobility and social infrastructure
- Increase in LP demand for such products – e.g. the UK's **Environmental Agency** is openly searching for climate-focused debt products

Infra debt demand "heat map"

Expected demand across LP type and region for senior and junior infra debt strategies

Senior infra debt

Junior/sub infra debt



Infrastructure credit manager universe

Top 20 Infrastructure Debt Managers[1]

Rank	Manager	Capital Raised ($m)
1	BlackRock	16.2
2	AMP Capital	15.5
3	AXA Investment Managers Alts	13.0
4	Macquarie Asset Management	12.9
5	EIG Global Energy Partners	10.8
6	Allianz Global Investors	7.8
7	Global Infrastructure Partners	6.0
8	Barings	5.6
9	Rivage Investment	4.9
10	Schroders	4.4
11	Edmond de Rothschild Asset Management	4.3
12	Brookfield Asset Management	4.2
13	IFM Investors	3.5
14	Westbourne Capital	3.2
15	The Carlyle Group	2.9
16	BNP Paribas Asset Management	2.6
17	HSBC Global Asset Management	2.6
18	Denham Capital Partners	2.4
19	La Banque Postale Asset Management	2.1
20	MEAG	2.0

Infra specialist investment managers

Generalist multi-strategy investment managers

Insurers Managing Third Party Capital

Source: Infrastructure Investor; 1) for dedicated credit strategies. As at February 2022.

Appendix

Core infra: Closed-ended vs. open-ended considerations

Merits to both structures

We have seen certain core players successfully raise long-term, closed-ended funds (e.g. Macquarie SC and Meridiam) and others maintain open-ended structures (e.g. JP Morgan, IFM and KKR).

'Forced seller' myth

OEFs argue that the CEFs result in a forced seller situation; in reality GPs always have the option of using extensions or going back to LPs if exit conditions are unattractive

'Increased liquidity' myth

In theory, OEFs provide more liquidity; in practice, restrictions on redemption & LPs wishing to exit in challenging times may mean the fund does not have cash on hand to fund high redemption levels

Shared time horizon

CEFs align investors and managers to the time period over which performance is delivered

J-curve

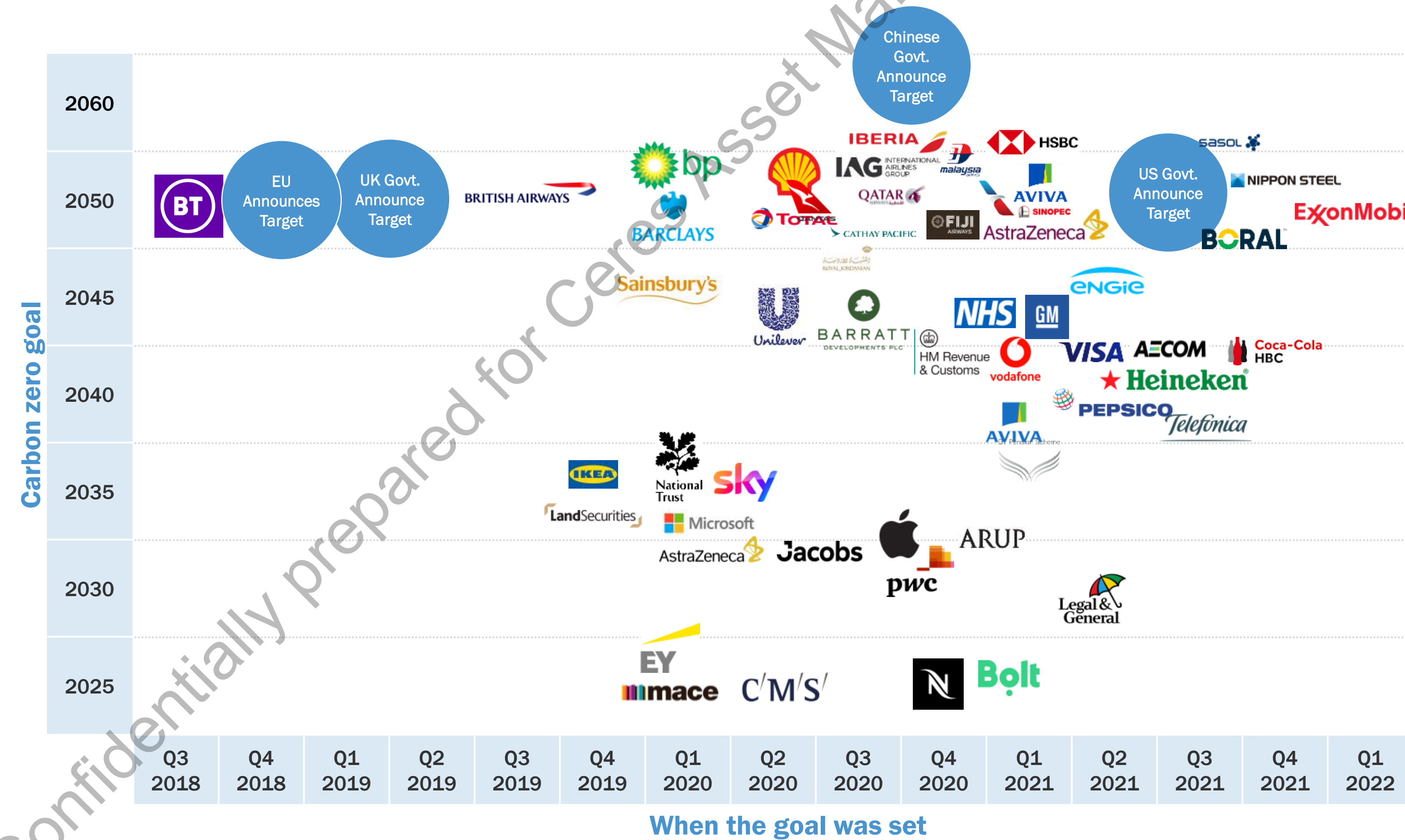
Shorter J-curve for OEFs due to a quicker investment period, no fees on undrawn commitments and cash yield from day one

Benchmarking

Discrete, start / finish nature of CEFs is more compatible with the general PE value proposition, and makes performance easier to compare with others deploying capital in similar market conditions

Corporate net zero focus

- More so than ever before, there has been **significant net-zero focus** by corporates
- Many have now made **firm, binding** net zero commitments, which in many cases are **more aggressive than governments**
- In order to meet these targets, many will need to **radically change** the way they use energy, providing significant **opportunities for private capital** investment



Since the start of 2020, we have seen a flurry of firms and governments setting net zero commitments in line with scientific and 2050 carbon reduction targets

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