Alternatives Research
Infrastructure

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DWS

INFRASTRUCTURE STRATEGIC OUTLOOK 2022

IN A NUTSHELL

_ Decarbonisation policies and technological change are reshaping the economy and the outlook for infrastructure investment, broadening the investment pipeline, and providing an opportunity for alpha generation in a market environment characterised by increasing medium-term volatility risk.

_ Infrastructure fundraising continues to grow, with thematic and sustainability-linked strategies emerging beyond traditional core and core plus. As the infrastructure investment landscape broadens, investors seek more sophisticated strategic asset allocation and portfolio construction processes.

_ Infrastructure deal volumes continue to recover, as renewables, digital and emerging infrastructure sectors accelerate. Return expectations remain supported by comparatively favourable entry valuations.

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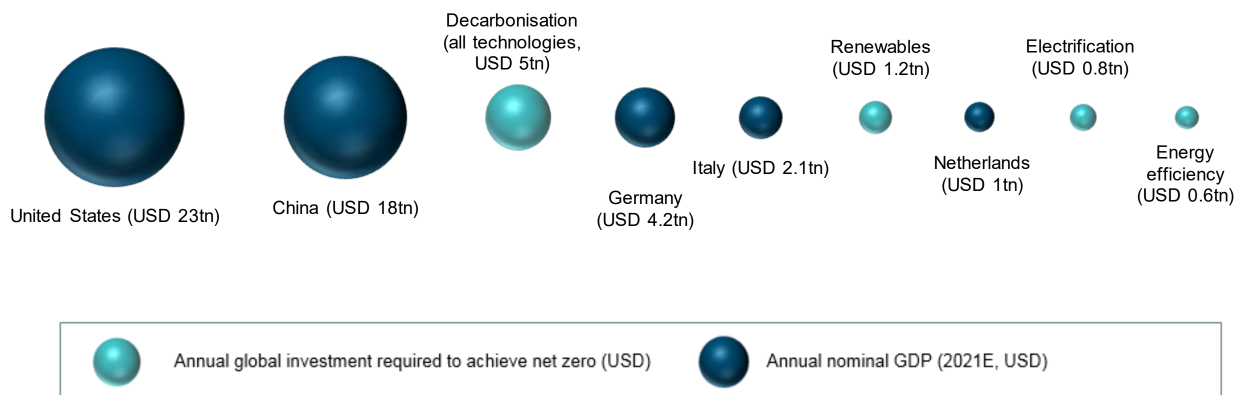
1 / A Profound Economic Transformation

Economic Transition: As the global economy recovers, the effects of the pandemic continue to weigh on the outlook amid supply-demand bottlenecks, with the risk of new Covid variants jeopardising growth. Fiscal and monetary policy have played a central role in supporting the recovery but may have also increased vulnerabilities, with higher debt and asset prices contributing to an uncertain outlook for inflation, interest rates and return expectations in the medium term. Despite the risk of a more volatile and divergent economic environment, Covid-19 is acting as a catalyst for a deep social and economic transition converging on decarbonisation, technological change, and sustainable growth. With infrastructure at the centre of this transformation, these three trends are anticipated to provide investors with more opportunities for alpha generation.

Decarbonisation Accelerating: Decarbonisation has become the world's third largest economy, behind the U.S and China, with annual investments in excess of USD 5 trillion or 4.5% of world GDP by 2030.[1] At the COP26 Climate Change Conference in November 2021, several governments announced ambitious initiatives to reach net zero emissions, but these pledges would limit global warming to 1.8°C, a level still above the Paris Agreement target of 1.5°C.[2] Therefore, in the medium term we anticipate policy commitment to grow, contributing to an even wider infrastructure investment gap.

ANNUAL NOMINAL GDP BY COUNTRY AND SIZE OF INVESTMENT NEEDS TO ACHIEVE NET ZERO EMISSIONS



Source: DWS, IEA "Net Zero by 2050", IRENA "World Energy Transitions Outlook: 1.5° C Pathway", as at October 2021. Notes: F = forecast, E = expected. There is no guarantee the forecast shown will materialise. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

Climate financing is increasingly at the top of the policy agenda across mature and emerging economies. Governments are allocating a substantial share of their recovery packages to climate change mitigation policies to decarbonise energy and transportation. However, with public debt reaching new highs across both advanced and new economies, private capital is expected to contribute materially to decarbonisation. Therefore, although we anticipate increased flow of public investment in traditional infrastructure sectors supported by Covid-19 recovery packages, we also expect an increase in the use of Public-Private-Partnerships (PPPs).

In the United States, the Infrastructure Investment and Jobs Act is expected to deliver USD 550 billion of new investments into infrastructure projects over the next five years.[3] The E.U. is expected to dedicate at least 37% of the EUR 750 billion

[1] IEA, "Net Zero by 2050", May 2021.
[2] Bloomberg, "Top Energy Agency Says COP26 Pledges Signal 1.8°C of Warming", 4 November 2021.
[3] Reuters, "Biden signs $1 trillion infrastructure bill into law", 16 November 2021.

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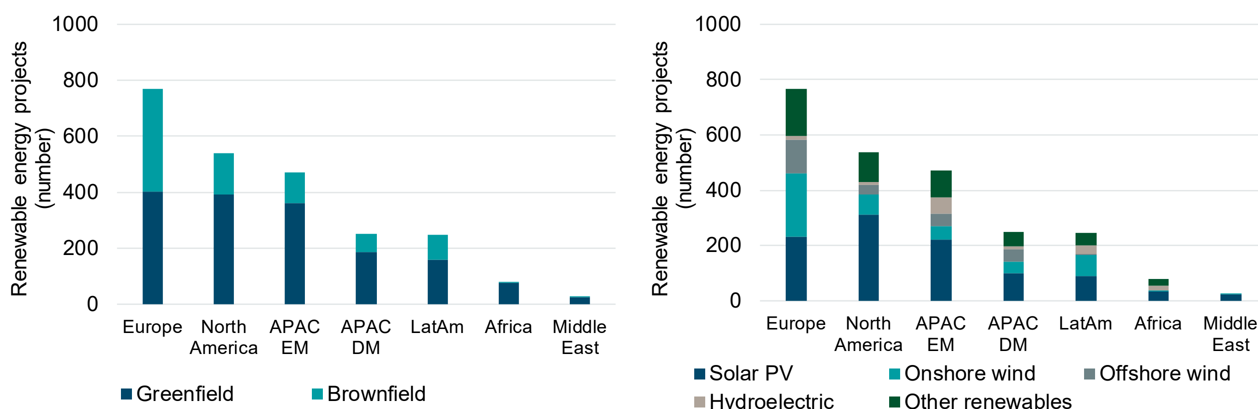
recovery fund to green investments.[4] Moreover, the E.U. is progressing with a roadmap to introduce an extensive package of new directives and regulations labelled EU 'Fit for 55', anticipated to drive a further acceleration of decarbonisation in Europe.

The E.U. reform proposal includes an expansion of the existing EU Emission Trading Scheme (ETS). The proposal aims to accelerate decarbonisation objectives, extend the scope of the EU ETS to include the shipping sector gradually from 2023, and to gradually phase out free allocations for the aviation sector by 2026. The EU Commission also plans to regulate road transport and building emissions through a new, separate trading system anticipated to come into force by 2026.[5] Over the past decade, the EU ETS has contributed to a partial coal-to-gas switch for power generation. The recent reform proposals have contributed to expectations around a material acceleration of energy transition policies and higher power prices in Europe, with carbon emission pricing exceeding EUR 79/tonne in December 2021 (from EUR 32/tonne in January 2021),[6] and long-term renewables power purchase agreements (PPAs) exceeding EUR 60/MWh (from EUR 38/MWh in December 2020), as investors focus on hedging against the risk of power prices increasing further.[7]

The last decade was marked by an initial shift from thermal power generation to renewables. We anticipate the pipeline for large-scale renewables to expand, as renewable energy increasingly achieves grid parity amid higher power prices, with developed markets continuing to lead in terms of investment volumes, supported by a comparatively mature regulatory framework. However, we expect distributed generation and small-scale renewables to form an essential part of the pipeline over the coming decade. Regulation supports small-scale renewables through a range of measures, such as feed-in-tariffs, tax reliefs and grants that vary by country. This supports the installation of rooftop solar and energy efficiency technologies including smart meters, battery storage, efficient boilers, and the electrification of heating and cooling systems.[3]

PIPELINE OF RENEWABLE ENERGY PROJECTS (GLOBAL, NUMBER OF PROJECTS)



Source: Inframation, as at November 2021. For illustrative purpose only. Past performance is not a guide for future results.

Technological Innovation: Ambitious decarbonisation policies, stronger public investment and robust renewables growth will not be sufficient: achieving net-zero emissions may require more significant transformational changes and larger investments in sectors spanning from transportation to industry, with the adoption of innovative technologies and private capital playing a pivotal role. Covid-19 appears to have accelerated the adoption of digitalisation and innovative technologies. Technology is contributing to a reshuffling of the structure of our economies and changing the way consumers and industries operate. Importantly, technology is contributing to the emergence of sustainable, low emission solutions expected to play a pivotal role in achieving net zero, with digital infrastructure, battery storage, transport electrification, new

[4] Reuters, "Germany to spend 90% of EU recovery money on green, digital goals", 27 April 2021.
[5] European Commission, "European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions", 14 July 2021.
[6] ICE, December 2021.
[7] Pexapark Euro Composite, 29 November 2021.

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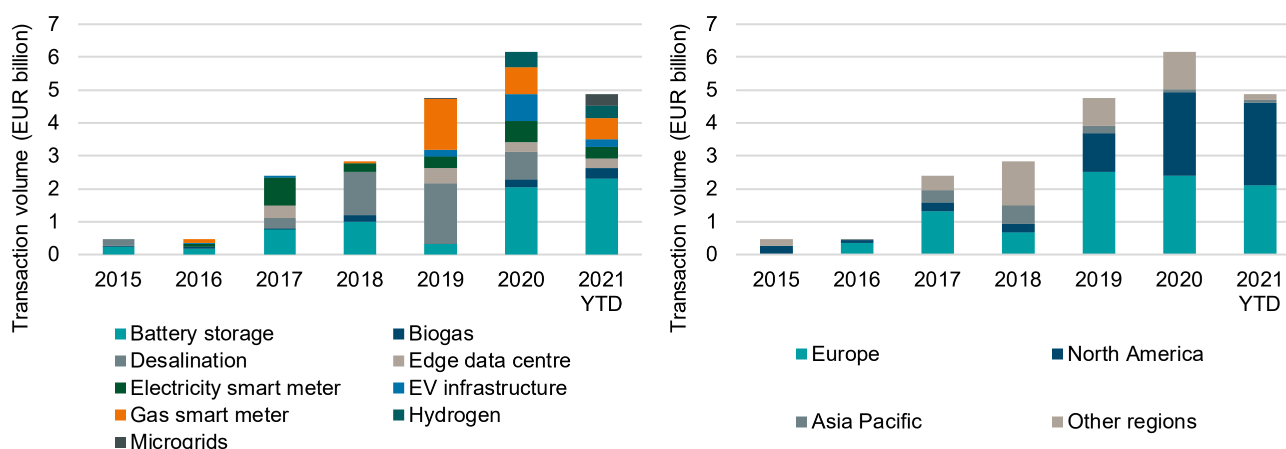
mobility services, green hydrogen solutions, smart cities, logistics automation and decentralised water services at the centre of the development of a new economic platform and innovative business models. As new business models emerge, the competitive environment is changing, with transportation companies, utilities, Oil & Gas companies, new entrants and even telecom companies aiming to capture a share of this rapidly evolving market.

In our view, private infrastructure investors will play a central role in providing the capital needed to support the transition to a greener and more innovative infrastructure platform, with transaction volumes in emerging infrastructure sectors already showing signs of growth. As emerging technologies and business models gradually mature further, we anticipate growing interest from private infrastructure investors in emerging infrastructure sectors, a broadening of the investment pipeline, and more strategies focusing on the small and lower-middle end of the infrastructure market, where the pipeline for these opportunities is anticipated to be stronger. Emerging infrastructure sectors are likely to offer an opportunity for alpha generation, platform strategies and capital appreciation, but also will likely be exposed to higher volatility and an initial lack of historical return track-record. As a result, we anticipate investors will increasingly focus on portfolio construction and diversification.

EMERGING PRIVATE INFRASTRUCTURE SECTORS - TRANSACTION VOLUME (GLOBAL, EUR BILLION)



Source: Infranews, as at November 2021. Past performance is not indicative of future results.

Beyond emerging investment opportunities, technological change will, in our view, also create a base for implementing value-enhancing asset management initiatives and for improving the sustainability profile of existing infrastructure assets. For example, public transportation may benefit from electrification of bus fleets to reduce emissions, sensors to improve asset efficiency, and digital connectivity solutions to integrate with smart city multi modal transport.

Sustainability and Infrastructure: Infrastructure plays a pivotal role in the achievement of a more sustainable global economy. The UN Sustainable Development Goals (SDGs), established by the UN General Assembly in 2015, introduced 17 global objectives that include climate action, but are more broadly focused on an inclusive improvement in quality of life around the world. Infrastructure, either directly or indirectly, influences the attainment of the Sustainable Development Goals (SDGs), including 72% of the targets.[8] SDGs are increasingly contributing to orientating policymaking and private investors' capital allocation decisions. Even though most efforts and capital flows have historically focused on investment in renewable energy, we now observe stronger policy making and private capital focus in supporting emerging infrastructure sectors that will play an essential role in supporting SDGs. For example, water security has been widely identified as one of the major global risks, with UN's SDG 6 aiming to ensure access to safe water sources and SDG 14 focused on safeguarding ocean

[8] University of Oxford, "Infrastructure needed to achieve 72% of Sustainable Development Goal targets", 2 April 2019, citing Nature Sustainability, "Infrastructure for sustainable development" (2019).

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and marine resources sustainability. Over the next 30 years, an estimated USD 6.7 trillion may be required just to upgrade ageing water infrastructure across OECD markets and sanitation for all by 2030.[9] With technological innovation in the form of new decentralised water supply and treatment systems offering innovative solutions for the provision of water and wastewater sanitation services, we anticipate strong focus from policymakers and private capital in supporting governance frameworks enabling the financeability of innovative water infrastructure projects.

Over the coming decade we anticipate the adoption of innovative infrastructure technologies to play an unparalleled role for the achievement of several key SDGs, requiring a considerable investment flow into supporting infrastructure such as small-scale renewables, battery storage, transport electrification, green hydrogen infrastructure, carbon capture, alternative fuels, energy efficiency services, or advanced recycling. In our view, these emerging infrastructure assets tend to be outside of the traditional remit of public investment; however, as these technologies mature further, and regulatory and contractual frameworks standardise, we anticipate private infrastructure capital to play a pivotal role in providing investment needed to contribute to the achievement of key SDGs.

EXAMPLES OF EMERGING INFRASTRUCTURE INVESTMENT AND UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

SECTOR	INVESTMENT (Examples)	RELATED UN SDGS
Renewable Energy	Small scale renewables, battery storage	7, 8, 9, 11, 13
Hydrogen	Green hydrogen infrastructure, hydrogen refuelling stations	3, 7, 9, 11, 13
Carbon Capture	Carbon capture and storage	3, 7, 8, 9, 11, 13
Transport Electrification	EV charging infrastructure, e-buses, fleet greening	3, 7, 9, 11, 13
Alternative Fuels	Biofuels, synthetic fuels (e-fuels)	7, 9, 11, 13
Energy Efficiency	Smart meters, building retrofit, demand-response services, business services	3, 7, 9, 11, 13
Digital Infrastructure	Fibre networks, green data centres, edge data centres, smart cities infrastructure	4, 8, 9, 11
Water	Distributed water, water desalination	3, 6, 9, 11, 13
Circular Economy	Advanced recycling, waste processing, wastewater treatment	9, 11, 12, 13

Source: DWS, as at December 2021. This information is intended for informational purposes only and does not constitute investment advice, recommendation, an offer or solicitation. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

[9] ECD, "Principles of Water Governance", June 2015.

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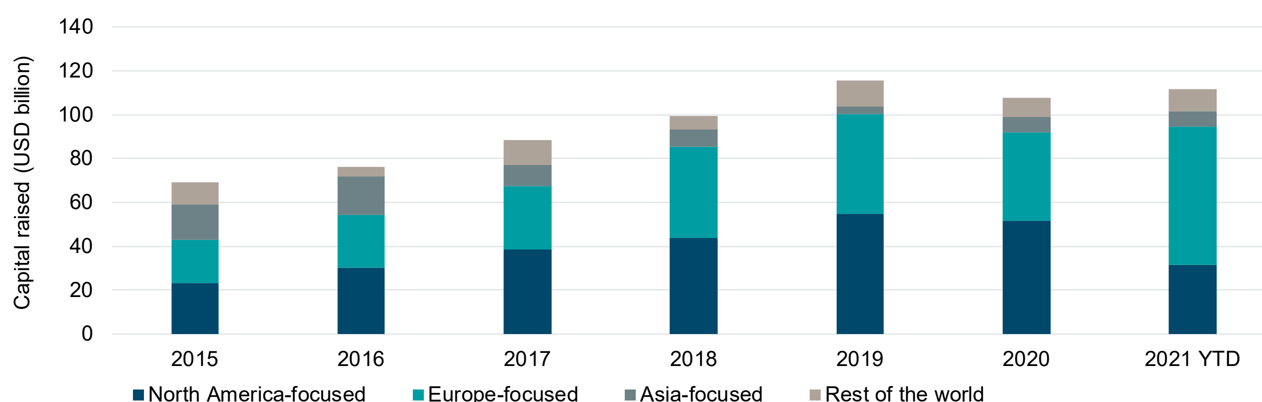
2 / Market Update

Fundraising: Over the last 24 months, private infrastructure fundraising has proven resilient despite Covid-19, with institutional investors continuing to ramp-up allocations, supported by the continued growth of the asset class and regulatory factors such as Solvency II. In our view, 2021 could be a record year for the asset class. As at November 2021, private infrastructure has raised over USD 111 billion, secured by 102 funds globally. Europe-focused funds led the fundraising market, raising a combined USD 63.4 billion to date, followed by funds focusing on North America that raised USD 31.4 billion.[10] Funds focusing on Core and Core Plus strategies secured USD 61.4 billion of capital, corresponding to around 55% of total capital raised so far this year. We continue to see strong investor interest in diversified Core and Core Plus strategies supported by their potential for regulated or contracted inflation-linked cash flows, particularly amid rising inflation and interest rate expectations.

Nevertheless, as the asset class evolves, we observe an expansion of the asset class across a broader set of strategies and risk/return propositions aimed at complementing existing infrastructure portfolios. We notice an acceleration in fundraising for thematic infrastructure funds in sectors related to energy transition with focus on sectors such as renewables, energy efficiency, hydrogen, sustainable transport, and smart cities infrastructure. We estimate that thematic infrastructure funds raised over USD 26 billion in 2021 to date, substantially above USD 11.9 billion raised in 2015.[11] Compared to recent years when managers appeared to be increasingly focusing on global large-cap funds, we now also see a gradually stronger emphasis on raising funds with smaller sizes, typically in the mid-market, given the nature of emerging infrastructure sectors, naturally positioned in the small-cap or lower mid-market.

Small-cap or lower mid-market infrastructure funds typically focus on higher risk/return propositions compared with traditional core infrastructure. They also appear better positioned to capitalise on megatrends to support growth via platform strategies and M&A, a factor that may contribute to generate long-term value and support valuations in a rising interest rates environment. This is opposite to core infrastructure strategies which focus on mature assets providing yield, and with valuations potentially exposed to a rising interest rate environment. For these reasons we anticipate gradually growing allocations to these strategies from investors.

PRIVATE INFRASTRUCTURE FUNDRAISING (GLOBAL, USD BILLION)



Source: DWS, Preqin, as at November 2021. For illustrative purpose only. Past performance is not a guide for future results.

[10] Based on Preqin database, as at November 2021.

[11] Based on Preqin database, as at November 2021.

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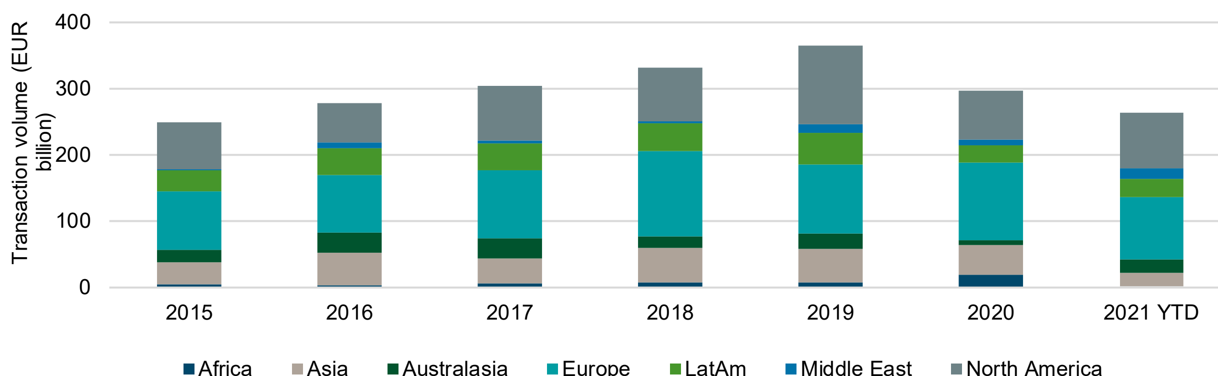
Integrating ESG: Particularly in Europe, policymakers are taking a range of actions to steer capital towards the achievement of ESG objectives, and we observe a progressively stronger focus of private infrastructure funds on sustainability. These regulatory measures are reinforcing and consolidating the stronger focus on sustainability that infrastructure investors have increasingly demonstrated over the last decade, amid the development of gradually more transparent ESG reporting standards, such as the infrastructure industry-driven organisation, GRESB. In 2009, GRESB started to provide assessments and benchmarking on material issues in the sustainability performance of real asset investments and today represents a benchmarking standard. GRESB methodologies provide assessments on funds and assets and are aligned with international reporting frameworks such as GRI, PRI, SASB, DJSI, TCFD recommendations, the Paris Climate Agreement, UN SDGs, region and country specific disclosure guidelines and regulations.[12]

Launched in March 2021, the EU Sustainable Finance Disclosure Regulation (SFDR)[13] and the related Taxonomy for sustainable activities provided a classification tool to establish the degree to which an investment may be considered environmentally sustainable. EU regulation[14] also provides guidance under SFDR on the integration of sustainability risks in the investment decision process and related disclosures (Article 3 and 6) for sustainability related strategies. Regulation initially focuses on environmental aspects but may expand to social and governance factors over time.[15] In our view, regulation may initially lead to an acceleration of infrastructure investment funds that promote social and environmental investment objectives (Article 8) in the short term. In the medium term, as regulation and ESG standards mature, we also anticipate a growth of strategies that have sustainable impact as a key objective (Article 9).[16]

Infrastructure investment needs continue to be largely concentrated on emerging markets, as these markets appear particularly exposed to the effects of climate change. However, investors still appear to be focusing largely on developed economies, where predictable and mature institutional and regulatory frameworks support long-term cash flow visibility. Nevertheless, we recognise that in the context of the anticipated growth in ESG strategies we may observe a gradual growth of funds targeting emerging economies, particularly for renewable energy strategies. We also observe a growing focus from multilateral institutions and development banks on the development of innovative financing solutions to mitigate risks and attract institutional capital into emerging markets, such as with blended finance vehicles or guarantees.[17]

PRIVATE INFRASTRUCTURE TRANSACTION ACTIVITY (GLOBAL, EUR BILLION)



Source: Infranews, as at November 2021. Past performance is not indicative of future results.

[12] https://gresb.com/nl/en/.

[13] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088, 18 June 2020.

[14] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088, 18 June 2020.

[15] Factset, "The EU Taxonomy Regulation: An Overview", 13 July 2020.

[16] European Commission, "Sustainable finance taxonomy – Regulation (EU), 2020/852.

[17] Asian Development Bank, "Key Role For Blended Finance in Asian Development Bank's Strategy 2030", August 2018

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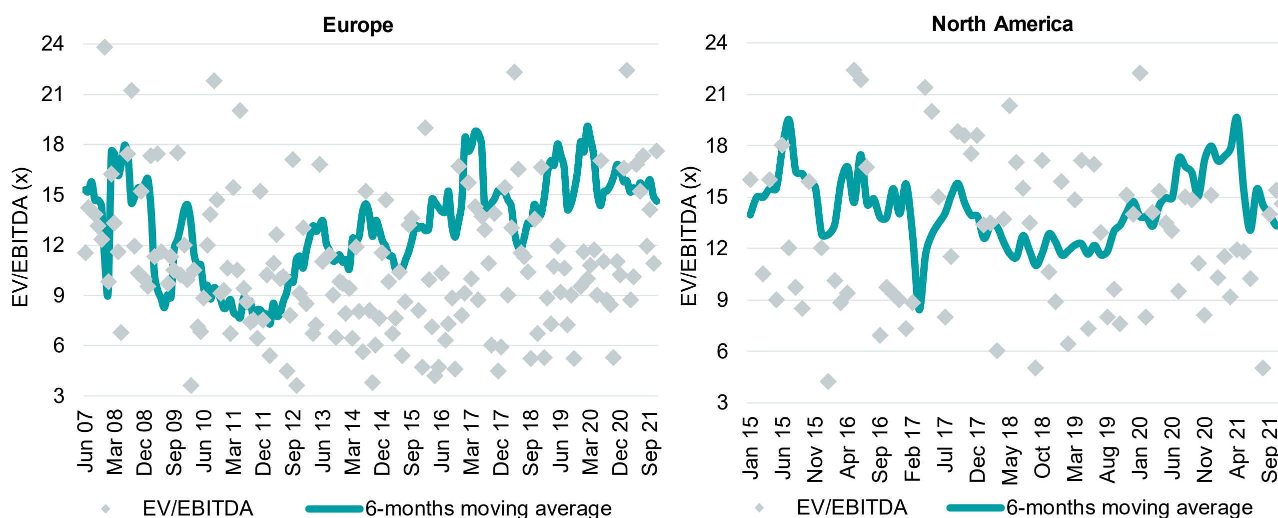
Transaction Activity: Covid-19 has led to a slowdown in transaction activity for private infrastructure equity in 2020, and we expect transaction volumes to remain below pre-Covid levels in 2021. Nevertheless, data indicate that, in Europe, transaction volumes have proven comparatively stable despite Covid, supported by the maturity of the institutional framework, and energy transition regulation and ongoing liberalisations boosting the deal pipeline. In 2021 YTD, European deals accounted for around 55% of total transaction volume, followed by North America with about 30% of deal volume and Asia, where transactions appear to have slowed down materially during the pandemic, accounting for 8% of deal volume.

In 2021, digital infrastructure and renewables represented the most active segments of the market. Europe continues to offer the broadest range of transaction opportunities by country and sector. We also observed a gradual acceleration in social infrastructure transactions following a decade of lower deal activity in the space, supported by government's recovery packages aiming to amplify the effect of public investment via PPPs. Covid-19 variants continue to represent a potential threat to a complete recovery in deal activity. Nevertheless, in 2022, we anticipate further progress in the recovery for sectors more heavily impacted by the pandemic, such as passenger transportation, supported by valuations continuing to prove comparatively attractive.

Valuations: Covid-19 led to a decrease in average entry prices for private infrastructure transactions, despite the decrease in government bond yields' contributing to support valuations. In 2021, valuations gradually progressed in their recovery as the effects of improving economic conditions were partially offset by persistent uncertainty around a full recovery from the pandemic. In sectors believed to be supported by alpha generation potential and solid underlying megatrends driving earnings' growth expectations, such as for digital infrastructure or greenfield renewables platforms, we observed higher average entry prices. While these sectors appear somewhat less susceptible to potential increases in government bond yields, we believe that long-term exit valuations may be more exposed to the ability of managers to deliver on business plans and growth initiatives.

EV/EBITDA MULTIPLES FOR UNLISTED INFRASTRUCTURE TRANSACTIONS (EUROPE AND NORTH AMERICA)



Source: DWS proprietary database of unlisted infrastructure deals, based on publicly available transaction information from various sources, including Infrastructure Journal, InfraNews, as at November 2021. For illustrative purpose only. Past performance is not a guide for future results.

In the medium term, we anticipate infrastructure valuations, and particularly Core infrastructure focusing predominantly on yield, to remain partially exposed to a potential further widening of government bond yields, driven by central bank tapering on the back of higher inflation pressure. We expect that assets supported by solid megatrends in the mid-cap sector may be better positioned to withstand the potential long-term effect of bond yield increases on discount rates given their earnings'

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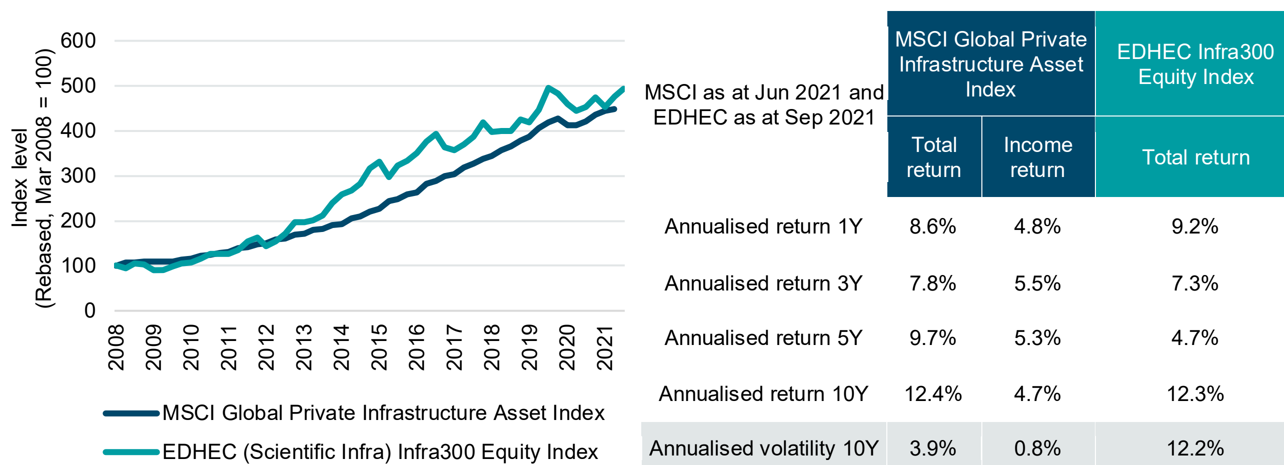
growth potential.[18] We also expect a continued, gradual reduction in cost of equity assumptions to contribute to support valuations and value generation, particularly for mid-cap infrastructure assets lending themselves to platform strategies, or for emerging infrastructure sectors directly supporting energy transition, climate resilience and sustainability.

Index Performance: Global private infrastructure demonstrated a strong historical performance over the past decade, delivering average total returns of around 12.4%.[19] As of September 2021, the EDHEC Infra300 Equity Index, looking at private infrastructure performance in the context of wider macroeconomic and market factors, showed an increase in total returns of 9.2% year-on-year, pointing at a rate of return above global economic growth, underpinned by solid cash yield generation. The MSCI Global Private Infrastructure Asset Index,[20] focusing on asset owners based fair-value valuations, indicated a total return of 8.6% year-on-year as of June 2021, with income return proving resilient despite the pandemic at 4.8%, and capital return at 3.6%, a level somewhat below historical long-term average, due to Covid-19 related effects.

PRIVATE INFRASTRUCTURE TOTAL RETURN INDICES (GLOBAL, LOCAL CURRENCY)



MSCI as at Jun 2021 and EDHEC as at Sep 2021	MSCI Global Private Infrastructure Asset Index		EDHEC Infra300 Equity Index
	Total return	Income return	Total return
Annualised return 1Y	8.6%	4.8%	9.2%
Annualised return 3Y	7.8%	5.5%	7.3%
Annualised return 5Y	9.7%	5.3%	4.7%
Annualised return 10Y	12.4%	4.7%	12.3%
Annualised volatility 10Y	3.9%	0.8%	12.2%

Source: MSCI, as of June 2021, EDHECinfra (Scientific Infra), as of September 2021. The EDHEC Infra300 Index used in the present document are the intellectual property (including registered trademarks) of Scientific Infra and/or its licensors, which is used under license within the framework of the Scientific Infra activity. Scientific Infra is not responsible for the moral or material consequences of their use. Past performance is not indicative of future returns. It is not possible to invest directly in an index.

[18] Based on DWS proprietary database of European unlisted infrastructure deals, based on publicly available transaction information from various sources, including Infrastructure Journal, InfraNews, as at June 2021. Past performance is not a reliable indicator of future returns.

[19] Based on a number of sources, including MSCI (10Y annualised return of 12.3% as at June 2021), EDHECinfra (10Y annualised return of 12.4% as at September 2021). Past performance is not a reliable indicator of future returns.

[20] The MSCI Global Private Infrastructure Asset Index is a valuation-based index tracking the performance of infrastructure assets using audited fair value appraisals.

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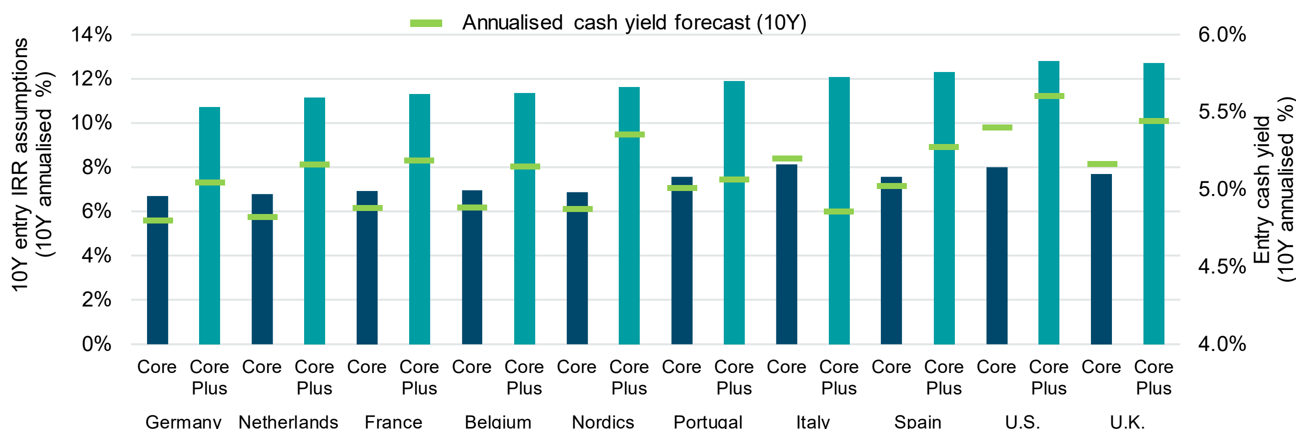
3 / Investment Outlook

Performance Outlook by Strategy: For 2022, we forecast levered ten-year entry returns for Core infrastructure assets to be in the range of 6.7% to 8.1% (IRR) in mature European markets, and ca. 8% (IRR) in the United States, indicating a limited average reduction of around 20 basis points compared to the June 2021 forecast.[21] Entry return expectations for Core infrastructure assets remain supported by regulation providing an explicit inflation hedge, a feature particularly attractive in the current economic environment characterised by rising inflation. However, rising government bond yields may weigh on exit valuations, thereby capping return expectations.

For Core Plus strategies, our 2022 forecast indicates ten-year entry returns in the range of 10.7% to 12.7% (IRR) in mature Europe, and ca. 12.5% in the United States. Average entry returns for Core Plus assets remain broadly stable compared to our June 2021 forecast. Core Plus returns are supported by earnings growth expectations underpinned by the economic recovery and underlying megatrends, and potential for medium-term inflation-linkage due to their contracted nature.

ENTRY IRR RETURN ASSUMPTIONS BY STRATEGY AND COUNTRY
(%, 2022F, ESTIMATE, LEVERED, 10Y, AVERAGE, LOCAL CURRENCY UNHEDGED)



Source: DWS proprietary methodology, as at November 2021. Notes: F = Forecast. There is no guarantee the forecast shown will materialise. Past performance is not a guide for future returns. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

Performance Outlook by Sector: For 2022, we forecast levered ten-year entry IRRs for European contracted power, utilities, and regulated networks to be in the range of 7% to 11% (IRR). While entry return expectations remain broadly stable for regulated assets, contracted power generation and renewables entry returns improved, driven by the increase in power prices and long-term power purchase agreements (PPAs). For transportation assets, our forecast indicates levered ten-year entry IRRs in the range of 9.8% to 12.4% (IRR).[22] While average entry valuations for transportation have been recovering throughout 2021, they still appear below pre-Covid levels, continuing to prove attractive compared with other infrastructure sectors for investors factoring in a medium-term sector recovery.

For 2022, in the digital infrastructure sector, we expect ten-year entry IRR assumptions to be on average at ca. 6-7% for Core assets, such as brownfield telecom towers, and on ca.12-14% for Core Plus assets, such as fibre and data centre

[21] DWS, based on DWS proprietary methodology, as at November 2021. There is no guarantee the forecast shown will materialise. Past performance is not a guide for future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.
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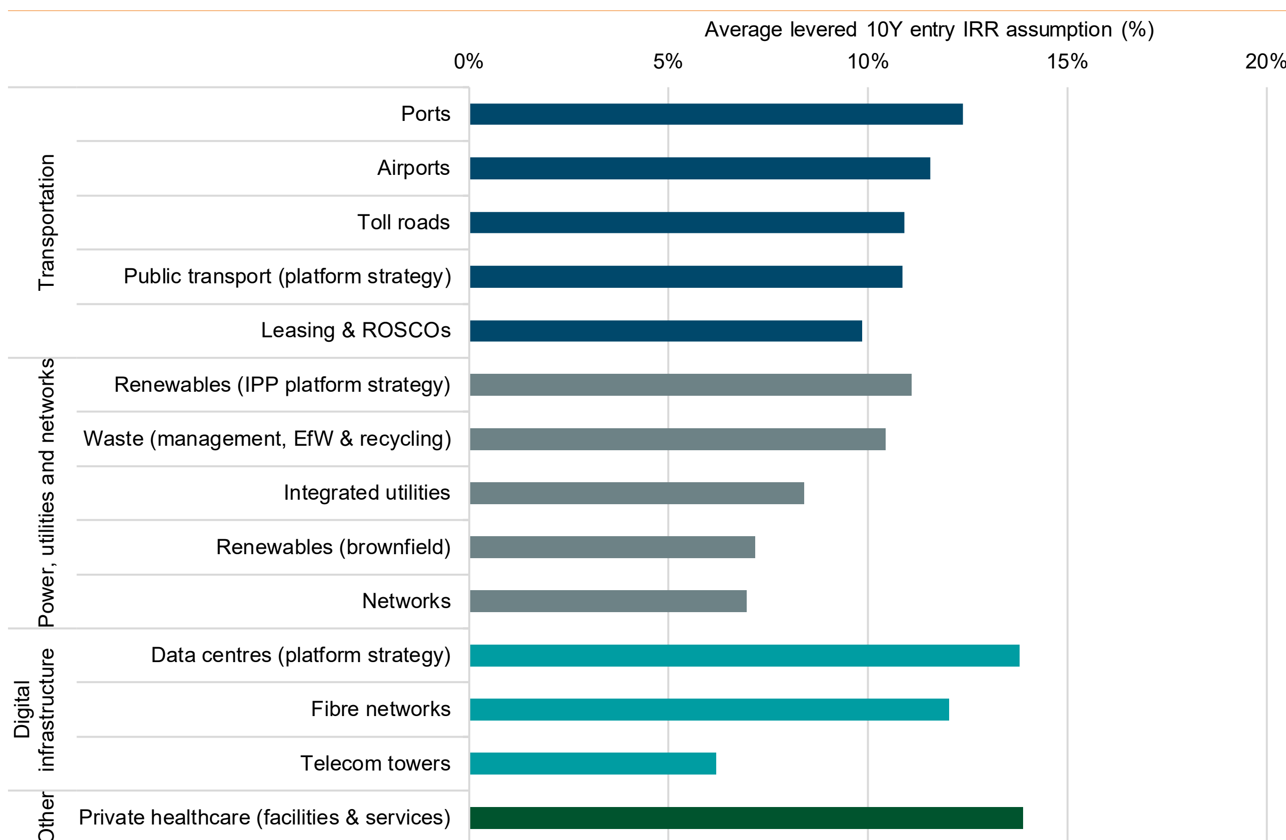
strategies with a development component. We see the sector as a strong beneficiary of the accelerated digitalisation megatrend with an average increase in return expectation of ca. 50 basis points compared to our June 2021 forecast. We observed a stronger demand for leased colocation space, as corporates roll out their digital transformation strategies to adapt to a new post-pandemic normal. Despite rising valuations for data centre and fibre networks, we expect assets to be supported by strong earnings' growth potential in cases of platform strategies expanding through both M&A and organic growth, underpinning returns. For fibre networks, we acknowledge the importance of incorporating competition risk from technologies such as FWA and satellites into business plans, particularly in the case of rural and remote geographical areas.

AVERAGE ENTRY IRR RETURN ASSUMPTIONS BY SECTOR IN EUROPE
(%, 2022F, ESTIMATE, LEVERED, 10Y, AVERAGE, LOCAL CURRENCY UNHEDGED)



Source: DWS proprietary methodology, as at November 2021. There is no guarantee the forecast shown will materialise. Past performance is not a guide for future returns. Forecasts are not a reliable indicator of future returns.

Portfolio Construction: Private infrastructure provided comparatively attractive long-term risk-adjusted returns and we continue to see potential for solid risk-adjusted long-term returns ahead. Covid-19 led to a spike in return volatility for passenger transportation, but as earnings' growth rates normalise, we anticipate a gradual convergence to pre-Covid levels. Private infrastructure is a diverse asset class and over the last ten years it has expanded, supporting portfolio diversification across a broader range of strategies and sectors that underpin yield, and provide capital appreciation potential. We expect this trend to accelerate, with emerging infrastructure sectors favourably positioned to benefit from the tailwinds of key megatrends. We anticipate the pipeline to widen in the sustainable small and lower middle-market segment, providing opportunities for stronger returns, but also exposing investors to potentially higher volatility with investors increasingly focusing on asset selection, portfolio construction, and a more sophisticated approach to strategic asset allocation to optimise risk-adjusted returns.

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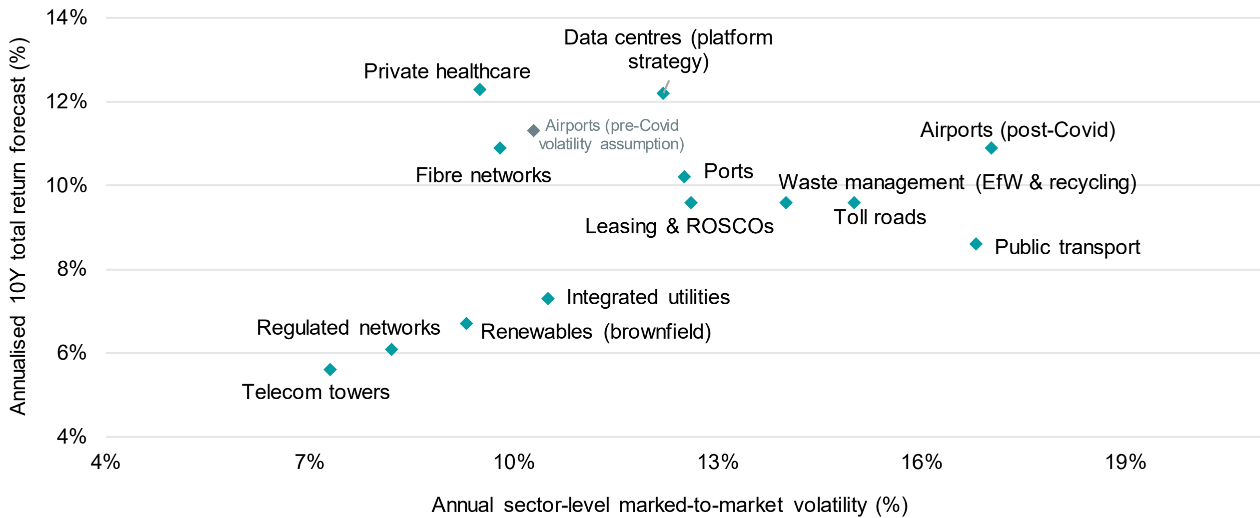
PRIVATE INFRASTRUCTURE ENTRY TOTAL RETURN FORECAST* AND VOLATILITY ESTIMATE
(%, EUROPE, 2022F, ESTIMATE, LEVERED, 10Y, AVERAGE)



Notes: *Total return forecast calculations differ from entry IRR calculations. The average ten-year European entry IRR assumptions as at November 2021 are: Airports (12.4%), Toll roads (10.9%), Ports (11.6%), Public transport (9.8%), Leasing and ROSCOs (10.9%), Networks (7.0%), Utilities (8.4%), Renewables brownfield (7.2%), Waste management (EfW & recycling) (11.1%), Data centres (13.8%), Fibre networks (12%), Telecom towers (6.2%), Private healthcare (13.9%). Source: DWS proprietary methodology, as at November 2021. Notes: F = Forecast. There is no guarantee the forecast shown will materialise. Past performance is not a guide for future returns. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect. This information is intended for informational purposes only and does not constitute investment advice, recommendation, an offer or solicitation.

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