

**BlackRock®**

# **APAC Opportunities in Infrastructure**

An investor guide to rapidly growing markets

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# APAC Opportunities in Infrastructure

An investor guide to rapidly growing markets

# 1 Relentless demand for infrastructure

The rapid development of the Asia Pacific region is perhaps **the defining economic story of this generation**. This sustained population shift into cities, uplift in incomes and rise of new technologies are all driving change on an unprecedented scale. There is **robust and relentless demand growth** for many types of infrastructure. The opportunity set is incredibly diverse, both across wealthy, well-established core markets and also rapidly-expanding, emerging markets.

# 2 A seismic shift is unfolding right now

In a ceaselessly changing world, market segments are rising and falling on the back of key fundamental trends. A **global pandemic** is seriously disrupting transport sectors, while accelerating demand for digital infrastructure and distribution networks. Meanwhile, a broadening commitment to address **climate change** will play out in the power sector, as generators shift to renewables and investors facing mounting risks of being stranded with older, more polluting power assets.

# 3 Ways to access these opportunities

This is a prime opportunity to enable this rapid economic development and – perhaps with a conscious strategy – avert some of the adverse environmental impacts. In our view, investors should be **sector selective**, skewed towards sectors with strong tailwinds, particularly in renewable power. At the same time, we think investors need to be keenly **pan-regional**, to realise the full benefits of diversification across different market cycles.



**Rachel Lord**  
Head of BlackRock  
Asia Pacific

“

*I am really excited to be back in Asia Pacific, to see again the buzzing energy and relentless growth here, particularly in infrastructure. There are tremendous opportunities ahead – to serve the growing needs of the region, to build resilient investor portfolios, and to drive a greener, more sustainable model of economic development.*

”

## Market overview

# Brimming with opportunity

For the infrastructure markets of the Asia Pacific, **big is the simplest word** to describe both the scale of infrastructure demand and the investment market opportunity set. This region houses most of the world's population and delivers much of the world's economic growth. The APAC region also contains some of the largest and most dynamic infrastructure markets globally. In our view, this region is **brimming with opportunity** for growth and income, as these trends unfold over decades to come.

The pace of this relentless growth is perhaps difficult to fully comprehend. Robust **migration and urbanisation** are adding 42 million people to APAC cities in a typical year<sup>1</sup>, requiring enough new urban infrastructure to serve an additional New York City or Greater London every 11 weeks.

**Rapid growth and rising incomes** are driving demands for better living standards and better infrastructure. In this region, 1.5 billion people are joining the ranks of **the rising middle class** this decade, accounting for 90% of the global gains<sup>1</sup>. In other words, the emerging middle class is a global phenomenon mainly concentrated in APAC markets for the foreseeable future.

At the same time, there is an increasingly urgent **renewable energy transition** unfolding right now, as the world moves aggressively from fossil fuels to low-carbon alternatives, all as part of a broadening commitment to net zero emissions by 2050. Much of the work will be done within this region, with 44% of global renewable investments expected to occur in APAC markets<sup>1</sup>.

## APAC Opportunities in Infrastructure

Beyond its size, **there is incredible diversity** across APAC markets, ranging from the stable and mature, to the growing and emerging. The wealthy OECD markets of **Japan, South Korea, Australia and New Zealand** all offer relatively mature and diverse infrastructure opportunities, across equity and debt segments.

**China** is quite far along in its development journey, having transitioned from an agrarian to a web-enabled economy in the space of a single generation. **India** still has a lot of room for an accelerated infrastructure rollout, as the required market and regulatory frameworks fall into place.

Similarly, the diverse countries of **Southeast Asia** are well positioned for rapid market-led infrastructure development, given the right combination of demand growth and wider gaps between actual and required spending. Hedging strategies are key to manage currency risks.

Beyond the long-running fundamental drivers, there are notable disruptions – **a global pandemic, intensifying climate change and ceaseless technological innovation**. These big shifts inform our views and continually reconfigure our market priorities.

*"Three reasons – growing populations, urbanisation and growing per capita income. **One of the most exciting prospects is in renewables and energy transition** where huge investment is required to meet the fastest growing energy need of any region around the world."*



**Michael Dennis**  
Managing Director,  
Head of APAC  
Alternatives Strategy  
& Capital Markets

## The APAC infrastructure opportunity at a glance<sup>1</sup>

57%

of the world's population

**This region encompasses most of the world's people...**

47%

of the world's economic growth

**...remains a dominant pillar for global economic growth**

63%

of the world's infra spending

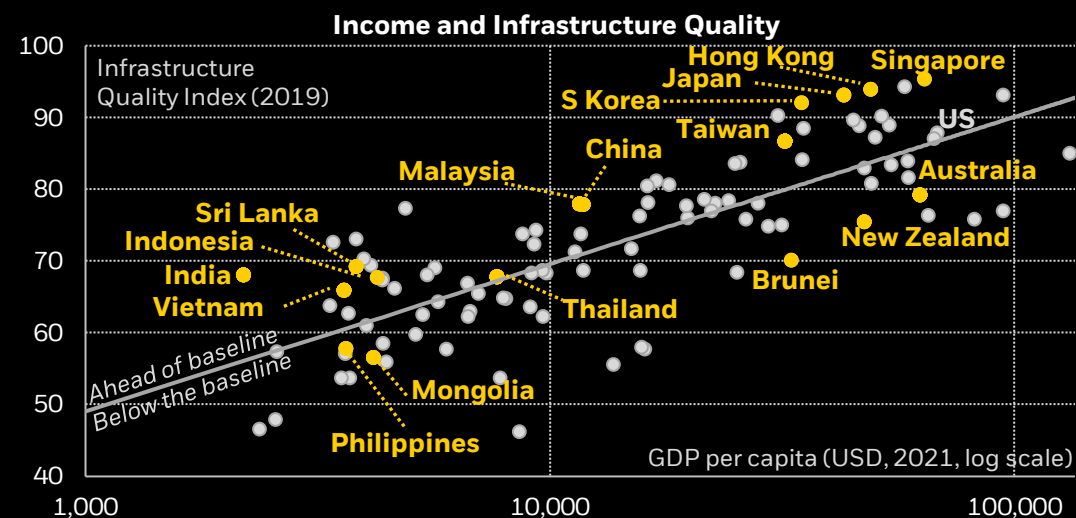
**There is a big infrastructure rollout underway today...**

\$1.4 trillion

infra spending gap in the 2020s

**...but still not enough to meet regional infrastructure needs**

## Infrastructure quality varies markedly across the region<sup>2</sup>



Source: Currency in USD. As of 31/08/2021. 1) Bloomberg NEF, Brookings Institution, G20 GI Hub, IMF, UN, BlackRock Real Assets 2) IMF, WEF, BlackRock Real Assets


# East and South Asia

China 	
Population <sup>1</sup>	1,408m
GDP growth <sup>2</sup>	+5.3%
GDP per capita <sup>3</sup>	\$11,800
Market share <sup>4</sup>	15%
Infra quality <sup>5</sup>	36 <sup>th</sup>
Transport	24 <sup>th</sup>
Utilities	65 <sup>th</sup>
Info comm tech	18 <sup>th</sup>

India 	
Population <sup>1</sup>	1,392m
GDP growth <sup>2</sup>	+6.7%
GDP per capita <sup>3</sup>	\$2,200
Market share <sup>4</sup>	15%
Infra quality <sup>5</sup>	68 <sup>th</sup>
Transport	28 <sup>th</sup>
Utilities	103 <sup>rd</sup>
Info comm tech	120 <sup>th</sup>

Japan 	
Population <sup>1</sup>	125m
GDP growth <sup>2</sup>	+1.1%
GDP per capita <sup>3</sup>	\$42,900
Market share <sup>4</sup>	5%
Infra quality <sup>5</sup>	4 <sup>th</sup>
Transport	4 <sup>th</sup>
Utilities	11 <sup>th</sup>
Info comm tech	6 <sup>th</sup>

South Korea 	
Population <sup>1</sup>	52m
GDP growth <sup>2</sup>	+2.5%
GDP per capita <sup>3</sup>	\$34,900
Market share <sup>4</sup>	3%
Infra quality <sup>5</sup>	6 <sup>th</sup>
Transport	5 <sup>th</sup>
Utilities	22 <sup>nd</sup>
Info comm tech	1 <sup>st</sup>


Hong Kong SAR 	
Population <sup>1</sup>	8m
GDP growth <sup>2</sup>	+3.0%
GDP per capita <sup>3</sup>	\$49,000
Market share <sup>4</sup>	2%
Infra quality <sup>5</sup>	3 <sup>rd</sup>
Transport	3 <sup>rd</sup>
Utilities	6 <sup>th</sup>
Info comm tech	3 <sup>rd</sup>

Source: Currency in USD. As of 31/08/2021 IMF, IJ Global, WEF, BlackRock Real Assets


<sup>1</sup> population estimate for 2021, <sup>2</sup> Average GDP growth forecast for 2021-26 (% p.a.), <sup>3</sup> GDP per capita as at 2021,

<sup>4</sup> Share of APAC infrastructure transactions (2016-2020), <sup>5</sup> Infrastructure quality ranked out of 141 markets (2019)


# Southeast Asia & Oceania

Singapore 	
Population <sup>1</sup>	6m
GDP growth <sup>2</sup>	+2.7%
GDP per capita <sup>3</sup>	\$64,100
Market share <sup>4</sup>	3%
Infra quality <sup>5</sup>	1 <sup>st</sup>
Transport	1 <sup>st</sup>
Utilities	5 <sup>th</sup>
Info comm tech	5 <sup>th</sup>

Vietnam 	
Population <sup>1</sup>	98m
GDP growth <sup>2</sup>	+6.8%
GDP per capita <sup>3</sup>	\$3,600
Market share <sup>4</sup>	3%
Infra quality <sup>5</sup>	77 <sup>th</sup>
Transport	55 <sup>th</sup>
Utilities	89 <sup>th</sup>
Info comm tech	41 <sup>st</sup>

Malaysia 	
Population <sup>1</sup>	33m
GDP growth <sup>2</sup>	+5.4%
GDP per capita <sup>3</sup>	\$11,600
Market share <sup>4</sup>	5%
Infra quality <sup>5</sup>	35 <sup>th</sup>
Transport	28 <sup>th</sup>
Utilities	51 <sup>st</sup>
Info comm tech	33 <sup>rd</sup>

Indonesia 	
Population <sup>1</sup>	272m
GDP growth <sup>2</sup>	+5.5%
GDP per capita <sup>3</sup>	\$4,300
Market share <sup>4</sup>	8%
Infra quality <sup>5</sup>	72 <sup>nd</sup>
Transport	55 <sup>th</sup>
Utilities	89 <sup>th</sup>
Info comm tech	71 <sup>st</sup>

Australia 	
Population <sup>1</sup>	26m
GDP growth <sup>2</sup>	+2.4%
GDP per capita <sup>3</sup>	\$62,700
Market share <sup>4</sup>	31%
Infra quality <sup>5</sup>	29 <sup>th</sup>
Transport	38 <sup>th</sup>
Utilities	17 <sup>th</sup>
Info comm tech	29 <sup>th</sup>

New Zealand 	
Population <sup>1</sup>	5m
GDP growth <sup>2</sup>	+2.6%
GDP per capita <sup>3</sup>	\$47,500
Market share <sup>4</sup>	1%
Infra quality <sup>5</sup>	46 <sup>th</sup>
Transport	56 <sup>th</sup>
Utilities	30 <sup>th</sup>
Info comm tech	21 <sup>st</sup>

Source: Currency in USD. As of 31/08/2021. IMF, IJ Global, WEF, BlackRock Real Assets

<sup>1</sup> population estimate for 2021, <sup>2</sup> Average GDP growth forecast for 2021-26 (% p.a.), <sup>3</sup> GDP per capita as at 2021,

<sup>4</sup> Share of APAC infrastructure transactions (2016-2020), <sup>5</sup> Infrastructure quality ranked out of 141 markets (2019)

Key focus

# A deliberate, selective focus

In a massive, diverse APAC infrastructure market, it is critically important for investors to identify **the key market-moving trends** as they impact on investor strategies and risk-return objectives, particularly in terms of actual market and sector selection on the ground. In this context, several major themes are worth noting here.

**A lingering global pandemic** continues to greatly impede travel and commerce. Across the major sectors, this is still playing out as a dramatic disruption for cross-border passenger travel through airports, although domestic air, bus and rail routes are being less severely hit in countries with relatively larger domestic tourism markets and milder COVID impacts.

Meanwhile, the sustained push to **work, play and learn from home** is driving a surge in demand for digital and distribution networks. The impacts are clearly evident in the uplift for telecommunication and logistics sectors, where activity and investor appetite are both rising quickly. For now, the oil and gas sector is seeing a broad upswing and a near-term shift in usage demand, away from aviation and automotive fuel and towards domestic power for households.

Over time, there is a growing consensus to address **the escalating effects of climate change**. For policy makers, this is being pushed via a range of incentives and renewable energy targets. For investors, there is a sizeable opportunity to fund this renewable capacity build-out, not just in wind and solar, but also in newer battery and hydrogen technologies as well.

Given the 30-year lifespan of a typical power plant, portfolio decisions being made today will likely impact investor returns well into the 2050s. Investors should be acutely aware of climate risks, in order to **avert a great stranding of capital** locked into illiquid infrastructure assets in sunset sectors. Specifically, there is a broadening push to wind down coal power across the region.

With the immense demand growth for APAC infrastructure, there is **a sizeable and persistent infrastructure gap** that requires additional private sector capital, particularly given strained public finances. Current spending still falls short, most urgently in parts of Southeast Asia.

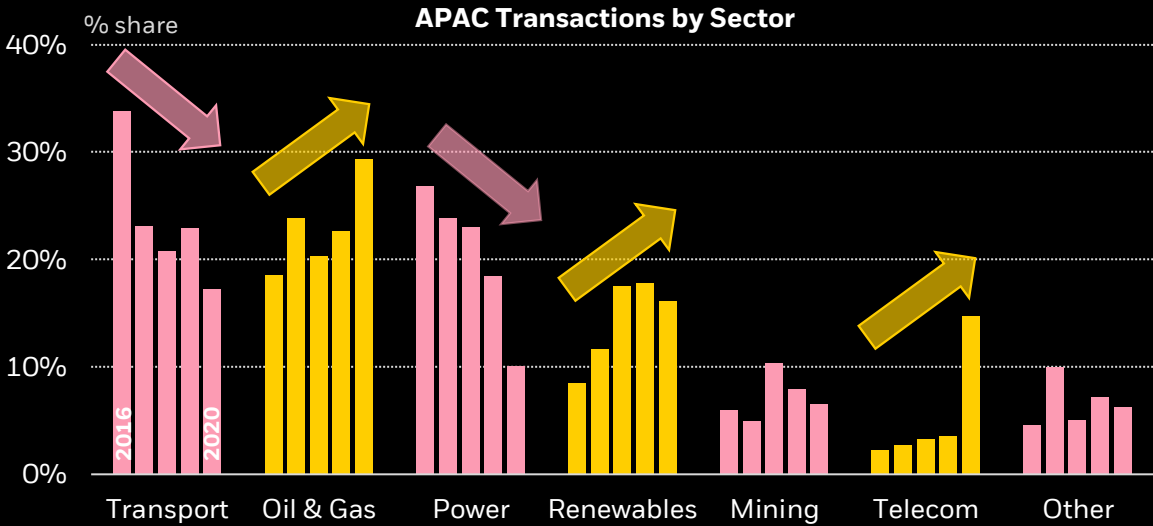
Amid firm demand, investors need to approach this space with **a deliberate and selective focus**. Some sectors are facing stiff headwinds, particularly in passenger transport (near term with a pandemic) and coal power. Also, there are strengthening tailwinds in renewable power and distribution logistics, where the underlying structural trends still have many years to run. Ultimately, infrastructure investments are **best assessed at the local level**, attuned to local demand and supply dynamics, as well as local regulatory framework maturity and incentives.

*“For our APAC investors, sustainability is increasingly a key consideration. Similarly, with continued **acceleration in technological adoption**, the focus on all forms of **digital infrastructure** is likely to continue.”*



**James Mellors**  
Managing Director,  
Head of APAC  
BlackRock Alternatives  
Specialists

## There is a steady and decisive shift across APAC sectors



## These are diverse markets with sizeable investment gaps

Market	Transactions (2016-20)		Infrastructure Gap (2020s)	
	USD billion	% share	USD billion	% of GDP
Australia	\$311 b	31%	\$58 b	0.4%
India	\$152 b	15%	\$193 b	0.5%
China	\$146 b	15%	\$704 b	0.4%
Indonesia	\$83 b	8%	\$26 b	0.2%
Japan	\$48 b	5%	\$33 b	0.1%
Malaysia	\$47 b	5%	\$28 b	0.6%
Singapore	\$31 b	3%	\$26 b	0.5%
South Korea	\$27 b	3%	\$15 b	0.1%
Vietnam	\$26 b	3%	\$38 b	1.2%
Philippines	\$25 b	3%	\$26 b	0.5%
Asia Pacific	\$1,007 b	100%	\$1,358 b	0.4%

Source: Currency in USD. As of 31/08/2021. G20 GI Hub, IJ Global, BlackRock Real Assets.

Sustainability

# A cleaner, greener path

In working to realise the region’s economic potential, there is an increased recognition that **rapid development** – while providing beneficial gains in terms of work and income – do **exact a serious toll** on the environment and the quality of life for all the residents within this region.

**The traditional path** for economic development in the 20<sup>th</sup> century proceeded in lock-step with increased pollution, as activity moved from a largely farming base, through a more pollutive industrialisation phase, before an onward shift to services and – eventually – initiatives to reduce carbon emissions and reverse the earlier damage wrought on the environment.

For most developed economies, there is often a **curved path in carbon emissions**, as each region progressively deindustrialises and we see greater public acceptance (and policy incentives) for shifting into less pollutive, more sustainable modes of personal consumption, transportation, manufacturing and power generation.

**A cleaner and greener path** for economic development – given the benefit of historical hindsight and newer technologies – may circumvent some of these environmental costs of the older development model, particularly by moving earlier into decarbonising initiatives.

In this context, the rapid infrastructure rollout has a key role to play in mitigating and reversing these adverse human and environmental effects,

by accelerating **the structural shift from fossil fuels into renewable power sources**, with much of the work expected to occur in the APAC region.

In our view, **the holy grail for sustainable development** for this region is to markedly accelerate the adoption low-carbon infrastructure across APAC markets, mindful of their differing stages of market maturity and economic development.

For **wealthier APAC markets**, the sustainability focus is very much on the power sector, with the shift out of fossil fuels and into renewable generation and battery storage.

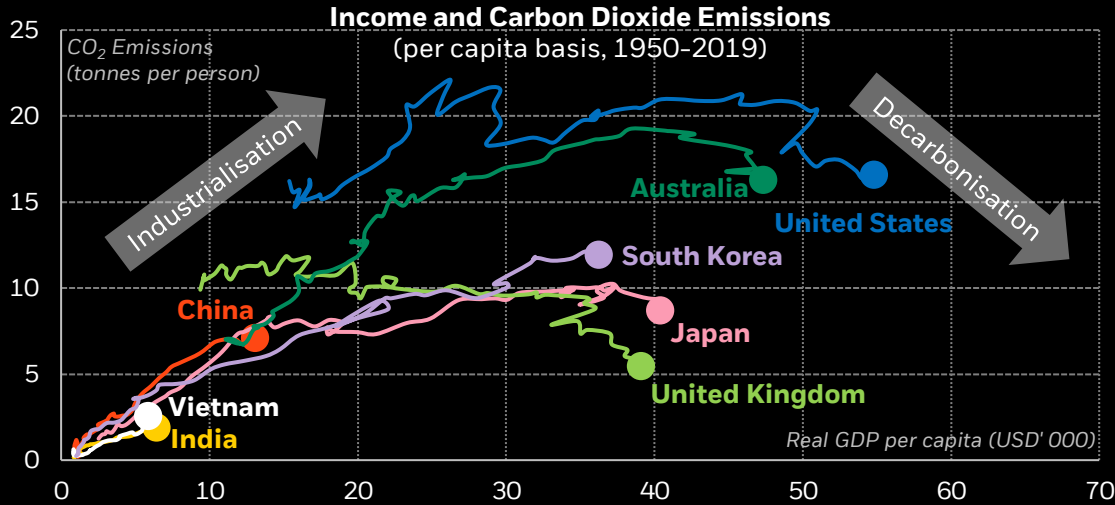
For **China**, there is still a lot of room for traditional railways, roads and airports in its infrastructure-led growth model. The massive commitment to carbon neutrality by 2060 is a key factor boosting the outlook for renewable power, electric cars and greener logistics networks.

Across **Southeast Asia** and **South Asia**, there is a growing chorus for a greener development model, to build climate resiliency into infrastructure, while improving local quality of life.

**“Effective ESG integration is a source of alpha. We are seeing a decisive shift in investor preferences. Investors are looking for assets delivering higher energy efficiency, a lower carbon footprint and lower operational costs.”**



## Curbing carbon output, in earlier development phases



## There are tangible local gains from greener infrastructure

Most Polluted Countries	Air Quality (PM <sub>2.5</sub> µg/m <sup>3</sup> )			
	2018	2019	2020	
Bangladesh (1 <sup>st</sup> out of 106)	97	83	77	Unhealthy
India (3 <sup>rd</sup> )	73	58	52	
Indonesia (9 <sup>th</sup> )	42	52	41	
China (14 <sup>th</sup> )	41	39	35	Moderate
Vietnam (21 <sup>st</sup> )	33	34	28	
Thailand (34 <sup>th</sup> )	26	24	21	
South Korea (41 <sup>st</sup> )	24	25	20	
Hong Kong SAR (60 <sup>th</sup> )	20	20	15	Good
Singapore (73 <sup>rd</sup> )	15	19	12	
Japan (82 <sup>nd</sup> )	12	11	10	
Australia (95 <sup>th</sup> )	7	8	8	WHO target

Source: Currency in USD. As of 31/08/2021. IMF, IQ Air, Our World in Data, United Nations, BlackRock Real Assets.

## Case studies

## Offshore wind generation in South Korea

*South Korea is a mature and sizeable electricity market that is making a conscious shift away from traditional coal and nuclear power, particularly after the recent disruptions in Fukushima, Japan.*

*In our view, offshore wind will become a significant driver of the energy transition in South Korea as the country looks towards offshore wind and other renewable assets to support their renewables development.*

*“APAC represents almost half of all installed renewable power globally.*

*In the prevailing low yield environment, we see attractive equity investment opportunities with institutional investors focusing to-date on the mature markets of **Japan, Korea, Taiwan and Australia**. We also expect investor interest to broaden to **China, India and South-East Asia** owing to the rapid levels of growth in climate infrastructure in these markets.”*



**Charlie Reid**  
APAC  
Renewable Power



## Offshore LNG production and storage in Southeast Asia

*The natural gas fields of Southeast Asia are well positioned to deliver on the rapidly-growing energy demands of Asia, particularly if there are the right investments in the necessary liquefied natural gas (“LNG”) production, storage and offloading infrastructure.*

*Delivering essential LNG infrastructure across the region – including floating production, storage and offloading facilities (“FPSOs”) and mobile offshore production unit (“MOPU”) – can help mobilise the energy transition and demand for “cleaner” power.*

*“Given the strong underlying market growth across APAC together with the increasing focus on enabling the energy transition, there is a significant opportunity to invest in building the underlying energy and power infrastructure.*

*We are **finding ways of partnering with established players along the energy value chain** to enable those investments in close partnerships. We are **looking for ways to enable the energy transition, as well as promote safe and fair operations through strong governance.**”*



**Eduard Ruijs**  
Global  
Energy & Power



Case studies are for illustrative purposes only, and should not be interpreted as advice or a recommendation.

## Case studies

## Cold-chain logistics provider in China

*With the rapid growth in the Chinese consumer sector, there is an urgent need to develop the required cold-chain logistics capability to deliver fresh food to a swiftly emerging set of middle class households across the key urban centres of China.*

*We see considerable opportunities in rolling out modern, energy-efficient operating and construction-ready cold-chain facilities, particularly in underserved, undersupplied locations across the massive and swiftly growing Tier 1 & 2 cities of China.*

*“Beyond renewables, we believe the region offers attractive relative value in sectors such as **supply chain logistics, digital infrastructure and the public financing gap.***

*A **rising middle class and increasing urbanisation** are supporting growth equity investment.”*



**Vignesh Shan**  
APAC Infrastructure  
Solutions



## Land title registries in Australia

*Land title registries in Australia provide an essential service to enable the regular buying and selling of residential and commercial property.*

*These titling services are relatively acyclical, given mandatory title searches for each sale, with pre-set prices. These registries generally operate on long-term standalone concessions in each state jurisdiction within Australia and deliver low-risk debt exposure underpinned by an essential social service.*

*“Traditionally, infrastructure has been financed by central government funding, however, budget constraints and economic volatility have highlighted **the need for institutional capital.***

*We see a diverse opportunity set across the region with strong deal flow for financing in **transport, energy, power, telecom and social infrastructure.***



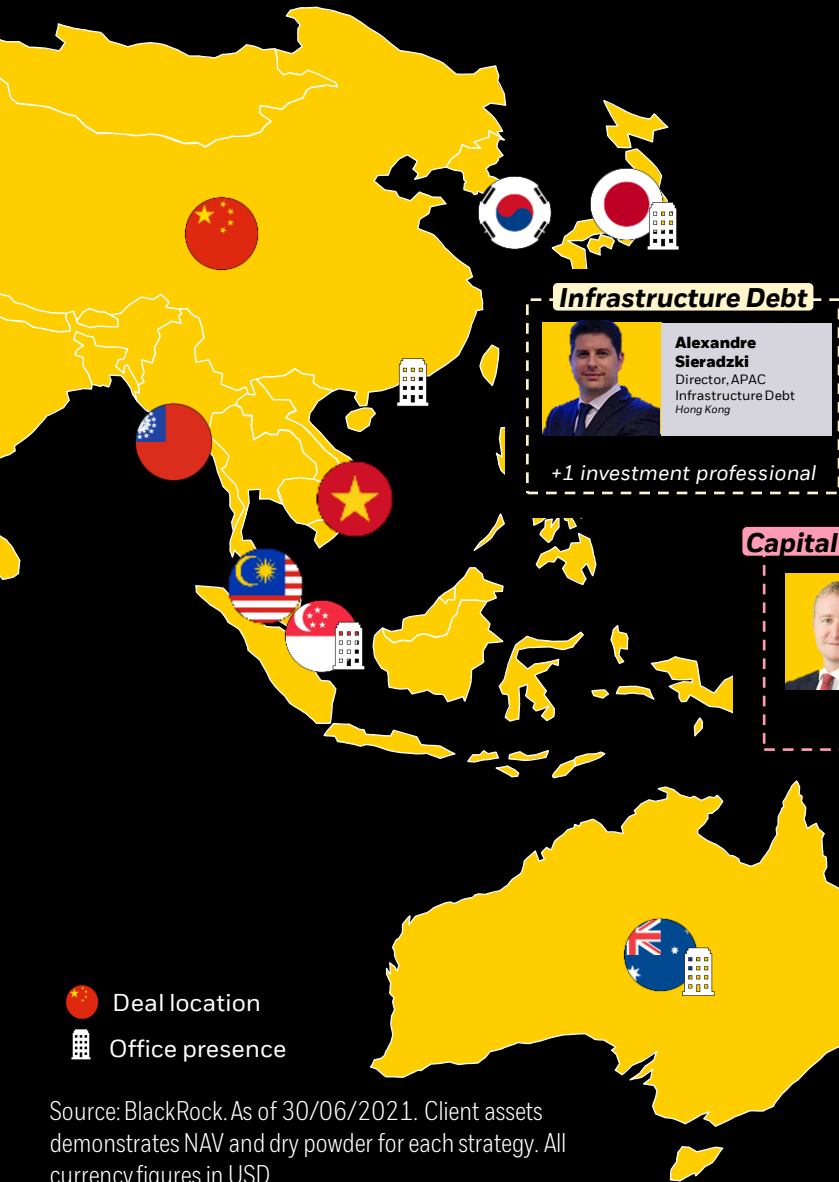
**Alexandre Sieradzki**  
APAC Infrastructure  
Debt



Case studies are for illustrative purposes only, and should not be interpreted as advice or a recommendation.

Footprint

# Over \$2b invested in APAC Infrastructure



**Infrastructure Debt**

**Alexandre Sieradzki**  
Director, APAC Infrastructure Debt  
Hong Kong

+1 investment professional

**Renewable Power**

**Charlie Reid**  
Managing Director, APAC Renewable Power  
Australia

**Valerie Speth**  
Managing Director, APAC Renewable Power  
Singapore

+5 investment professionals

**Energy & Power**

**Edward Winter**  
Managing Director, APAC Energy & Power  
Singapore

**Infrastructure Solutions**

**Vignesh Shan**  
Vice President, APAC Infrastructure Solutions  
Hong Kong

**Listed Infrastructure**

**Alastair Gillespie**  
Managing Director, CIO, Real Asset Securities  
Australia

+2 investment professionals

**Capital Markets & Strategy**

**Michael Dennis**  
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**COO**

**Hayden Lee**  
Managing Director, Regional Operating Officer, APAC Real Assets  
Singapore

+3 professionals

## Supported by Global Platform

\$34b client assets | 240+ professionals

Debt	Equity	Solutions	Listed
<b>Investment Grade &amp; High Yield</b> \$16.8b client assets	<b>Renewable Power</b> \$8.4b client assets  <b>Energy &amp; Power</b> \$7.4b client assets	<b>Infrastructure Solutions</b> \$5.6b client assets	<b>Infrastructure Securities</b> \$0.9b client assets

Source: BlackRock. As of 30/06/2021. Client assets demonstrates NAV and dry powder for each strategy. All currency figures in USD.

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