Asia-Pacific Infrastructure 2021: Strong foundations in a changing world

Although the world has been in the grip of a pandemic, our survey shows that the Asia-Pacific infrastructure market is set for considerable growth in the next few years with technology and ESG considerations at the heart of that expansion

Inframation
An Acuris company

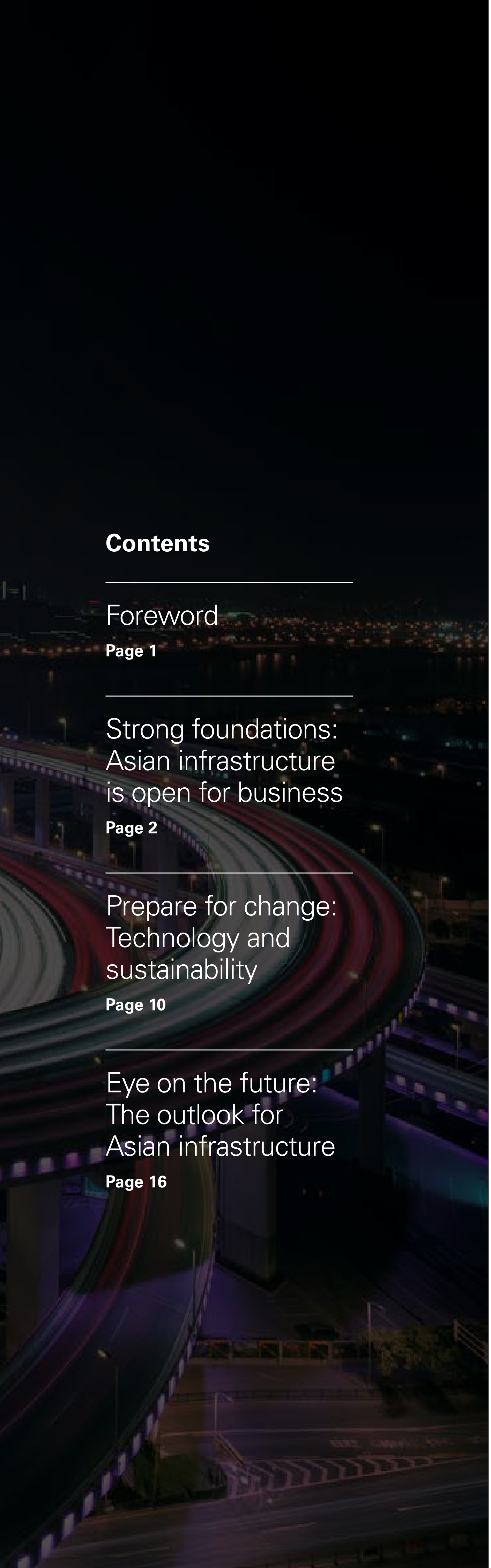
Methodology

In Q4 2020, White & Case, in partnership with Inframation Group, surveyed 100 senior-level direct equity investors and financial services firms who had developed, funded or invested in at least one APAC infrastructure project in the past 12 months, with a value in excess of US$100 million.

Respondent firms include investment funds, sponsors and developers, pension funds, sovereign wealth funds, investment banks and financial institutions. Of those surveyed, 50 respondents were based in APAC, 25 were based in EMEA and 25 were based in the Americas.

The survey included a combination of qualitative and quantitative questions, and all interviews were conducted over the telephone by appointment. Results were analysed and collated by Inframation Group, and all responses are anonymised and presented in aggregate.

The full survey results are available in English, Chinese and Japanese at: www.whitecase.com/asiapacific-infrastructure



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Foreword

Despite the pandemic, the Asia-Pacific infrastructure market is built on solid ground and remains buoyant. That is the key message from our exclusive new survey

While some projects have been delayed, the sector has proven itself remarkably resilient. As has occurred with previous crises, there is now a growing expectation that infrastructure financing volumes will increase above and beyond historical values as the effects of the pandemic subside. And private investment is vital, considering the region's infrastructure needs—demanding US$1.7 trillion annually in financing, according to the Asian Development Bank (ADB).

With this in mind, White & Case, in association with Inframation, set out to investigate the prospects for infrastructure investment across the APAC region. This new survey builds on our 2019 report *Cutting Through the Noise.*

The research reveals that, Black Swan events aside, investors remain extremely bullish over the long-term fundamentals of the Asia-Pacific infrastructure sector, with four clear trends emerging:

New frontiers
Investors see APAC as a land of opportunity. More than half of respondents cited 'wealth of opportunity' as the greatest benefit to investing in the region.

Growth plans
Despite concerns regarding aspects such as construction and delivery risk and political scrutiny, the outlook from respondents is overwhelmingly positive—78 per cent of firms intend to grow their teams in the region in 2021.

Social surges
Mirroring the findings from our previous report, roads are once again seen as the key infrastructure sector destination. The most eye-catching trend is the significantly increased focus on social infrastructure, with 58 per cent of firms intending to invest.

Responsibility reigns
An increasing need for sustainable infrastructure management caused 60 per cent of respondents to cite environmental, social and governance (ESG) considerations as 'very important' when looking at their investment in the region.

Strong foundations: Asian infrastructure is open for business

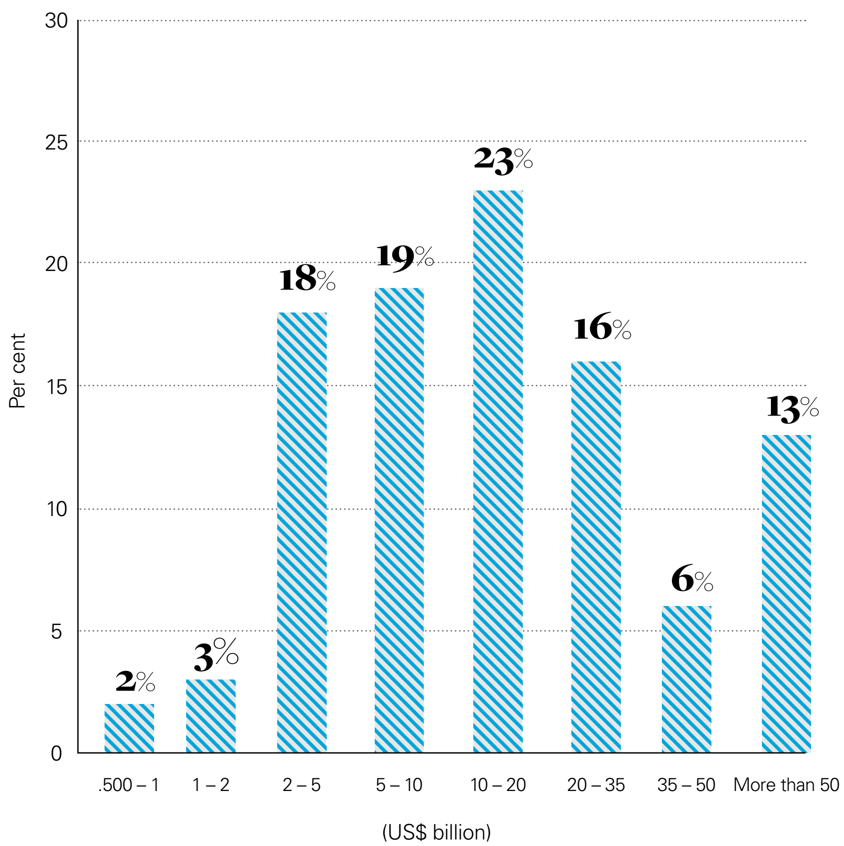
Despite the pandemic, optimism for Asia-Pacific infrastructure projects is increasing with investors looking at a plurality of regions and sectors

Global infrastructure as an asset class continues to attract investors as it is less susceptible to major economic cycles and short-term fluctuations, and provides comparatively steady income streams.

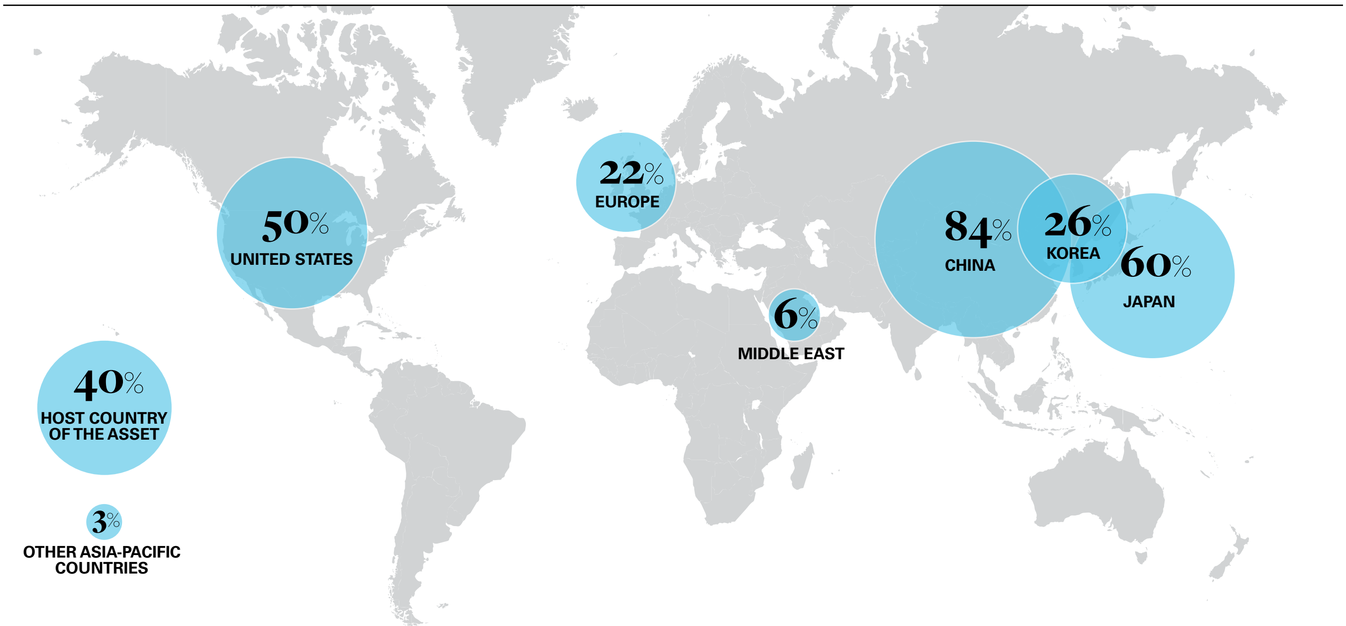
Land of opportunity
A January 2021 report from research firm Cerulli found that private global infrastructure investments had risen to US$583 billion by the end of 2020. And much of this investment is centred on Asia-Pacific. Indeed, our survey reveals that, as a mean total, respondents say 54 per cent of their total infrastructure spend is in Asia- Pacific compared with the rest of the world. This is up from 50 per cent in our 2019 survey.

Global infrastructure as an asset class continues to attract investors as it is less susceptible to major economic cycles and short-term fluctuations and provides comparatively steady income streams. And our survey finds that respondents will continue to invest heavily in the asset class. A majority (95 percent) intend to invest in excess of US$2 billion in 2021.

What is the level of your global infrastructure investment?



Where do you see investment into Asia-Pacific infrastructure coming from geographically over the next year?



Given that there remains an annual infrastructure financing deficit of US$459 billion, investment of this volume is vital. Government and private sector funding will be needed to fund the huge infrastructure pipeline that is essential for an infrastructure-led recovery in Asia-Pacific.

Asian powerhouses powering ahead

The majority of this investment is coming from Asia. Our survey reveals a gulf between intercontinental money and Western investment in the region—87 per cent of APAC respondents say that their investment is in Asia, compared to respondents from the Americas and EMEA whose investment in Asia is 19 per cent and 21 per cent, respectively.

As was the case two years ago, infrastructure investment in the region is primarily coming from China and Japan, as the world's second and third-largest economies continue to compete for assets. Japan's projects are concentrated in three of the region's largest economies: the Philippines, Singapore and Vietnam. China, meanwhile, is intent on resuming many of its listed Belt and Road Initiative (BRI) projects, such as its East Coast Rail project in Malaysia.

The gap between East and West is also seen in the numbers looking to grow their teams in the region. Overall, 78 per cent of firms intend to grow their teams in Asia in 2021—and although this is down 10 per centage points on our 2019 survey, the breakdown of results is more nuanced. Nearly all Asia-Pacific respondents (96 per cent) are looking to expand their teams in the region while the overall figure is pulled down by the 68 per cent and 52 per cent of Americas and EMEA respondents, respectively, who say the same. The latter numbers are likely down due to concerns over the pandemic as stringent cross-border travel restrictions are still in place across much of the West. In addition, Asian investment mandates are more likely to focus on their own region.

78%

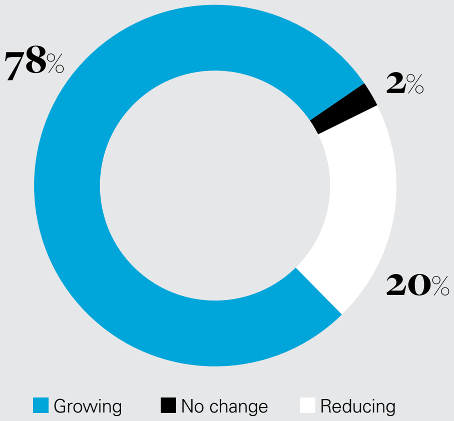
Of investors intend to grow their teams in Asia in 2021

However, it is worth noting that there has been no 'decoupling' from Asia – as evidenced by the six per cent year-on-year rise in US investments into China during the first half of 2020.

Different locations, different opportunities

While investors are eyeing up prospects across the region, our research reveals that the majority are looking at countries with healthy economies, stable political systems and reliable legal frameworks. Once again, Australia is proving most popular with investors, with 66 per cent of respondents citing it as a key destination for infrastructure investment over the next year.

Is your team size in Asia-Pacific changing or staying the same?



Wizards of Oz

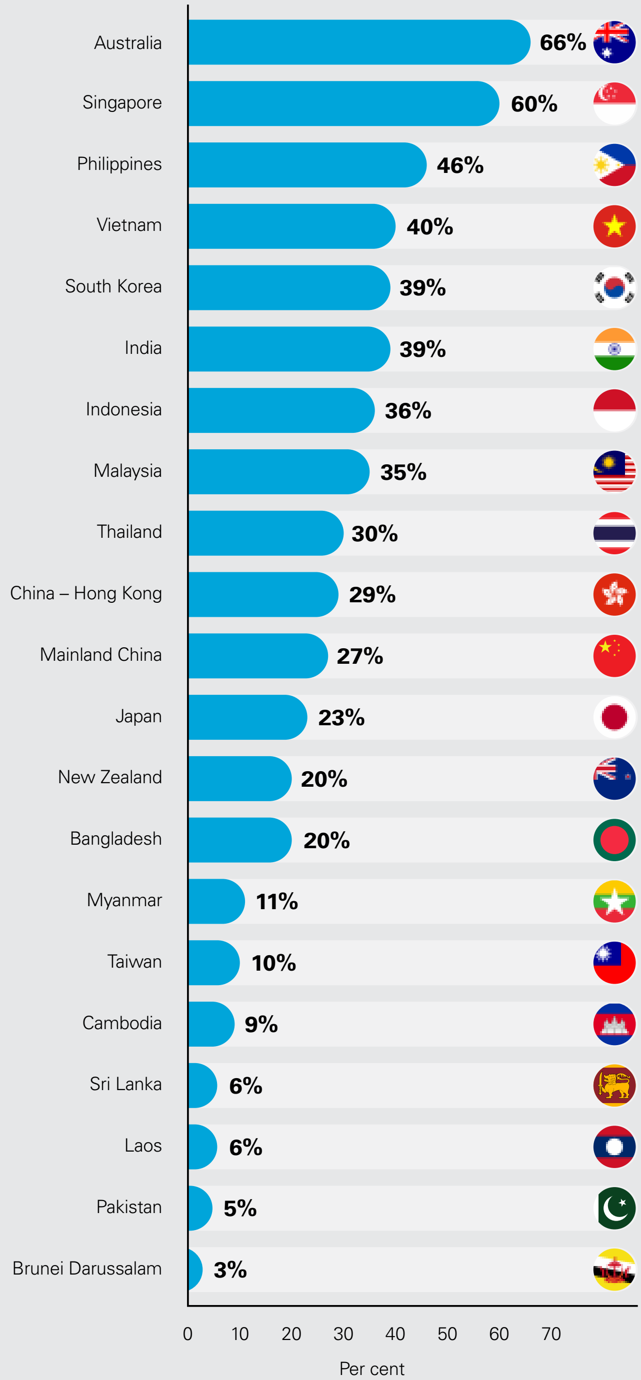
The popularity of Australia is particularly interesting as it has long been one of the more competitive markets in the world for infrastructure investment. And entry was potentially made harder in March 2020, when in response to COVID-19's potential impact on the economy, the Australian government announced that nearly all foreign investment would require screening and prior approval through the Foreign Investment Review Board (FIRB). While these measures were rolled back from 1 January 2021, it remains the case that most foreign investors will require FIRB approval for their investments in Australian infrastructure assets.

Chinese and Japanese companies have long been searching for opportunities in the Australian infrastructure sector, and are likely to continue pursuing acquisitions and joint venture opportunities with local players in order to establish a competitive platform on the ground. As Australia continues to transition away from fossil fuel-based energy, the greatest opportunities will be found in transition fuels (primarily gas) and renewables platforms.

66%

plan to invest in Australian infrastructure over the next year

In which Asia-Pacific countries do you plan to invest in infrastructure over the next year?



Emerging targets

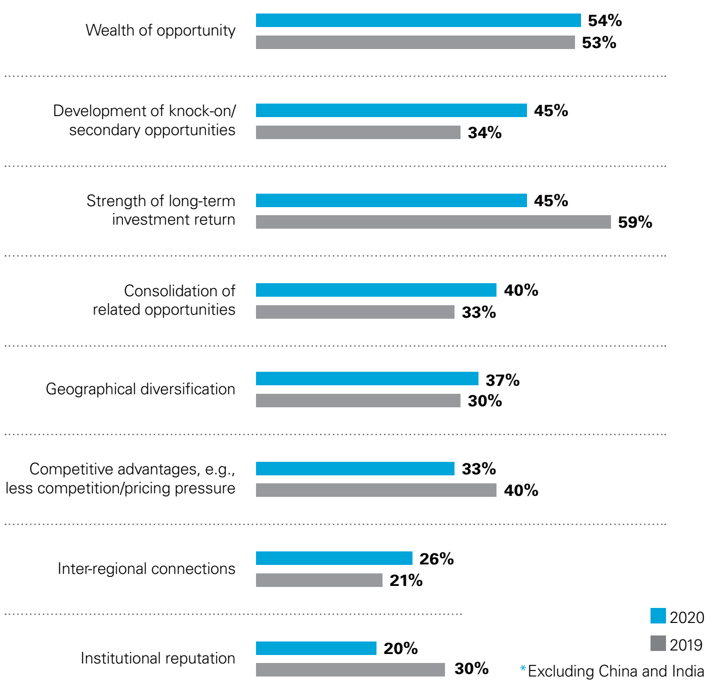
Forty-six per cent of respondents plan to invest in the Philippines in 2021, with almost the same number (40 per cent) targeting Vietnam. Such emerging markets provide significantly different value propositions for investors.

For example, although Vietnam's economy in 2020 grew at its slowest pace in at least three decades due to the effects of COVID-19, its comparative success in containing the virus saw it record gross domestic product (GDP) growth of 2.91 per cent, one of the highest in the world. However, with domestic energy demand growing by 10 per cent each year as a result of economic growth and a rising population, the lack of energy infrastructure could soon lead to power shortages and blackouts.

Foreign investors are therefore increasingly targeting opportunities in renewables, as the Vietnamese government seeks to diversify away from traditional energy sources and increase the proportion of renewables in the country's energy mix, from around nine per cent in 2018 to 21 per cent by 2030.

There are manifold reasons behind the surge in past traditional locations such as India and more developed nations such as Japan. Fifty-four per cent of respondents cited 'wealth of opportunity' as the greatest benefit to investing in the emerging economies, with 45 per cent looking forward to both the 'development of knock-on/secondary opportunities' as well as the 'strength of long-term investment return'.

Which do you consider the greatest benefits to investing in infrastructure in emerging Asian economies?*



54%
consider wealth of opportunity to be the greatest benefit to investing in infrastructure in emerging Asia

Political risk

However, while opportunities may abound, investors also noted numerous challenges—principal among these was political risk. Forty-three per cent of respondents considered it to be the biggest challenge, with concern most pronounced among investors in the Americas.

"Political risk has increased in the wake of the spread of coronavirus," said the director of investment at one US investment fund. "Countries have become more protective about letting in new investors."

One project that has been abandoned due to politics and policy issues is the US$25 billion Kuala Lumpur-to-Singapore high-speed rail project. After years of delays, two changes of government in Malaysia and the expectation of reduced travel volume in the coming years as a result of COVID-19, the Malaysian government will now pay Singapore a termination fee.

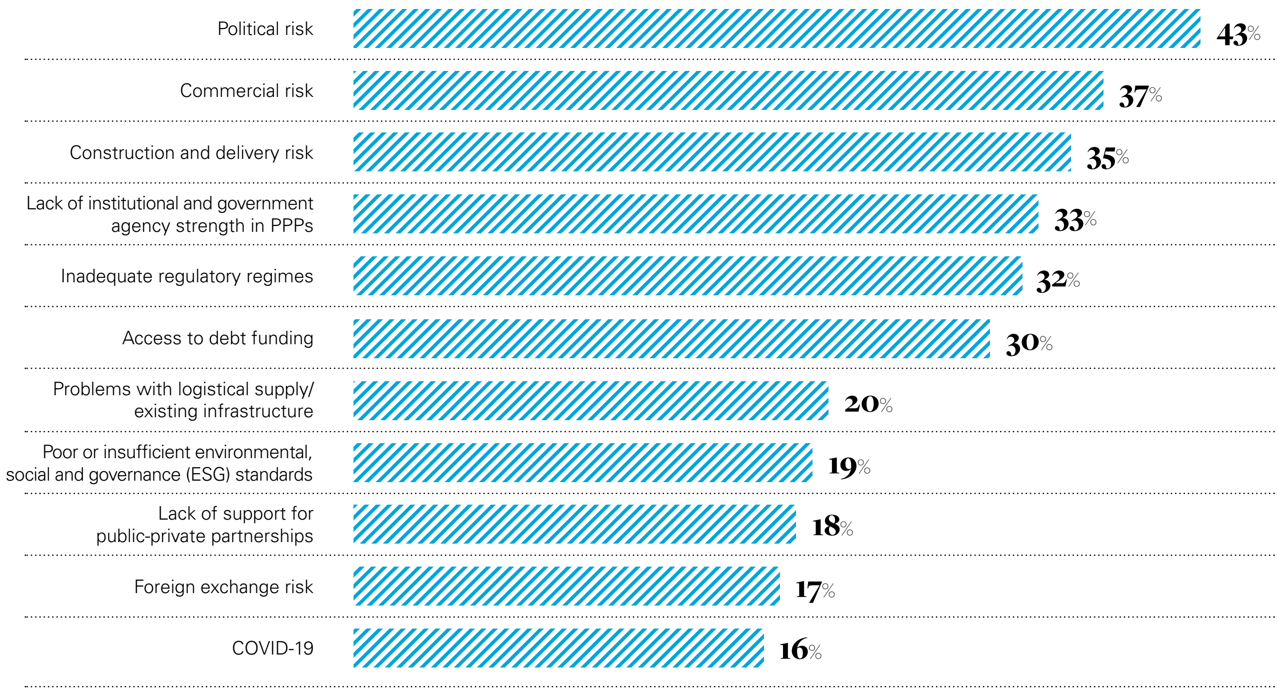
The situation in Malaysia demonstrates that governments need to provide a level of political and legal stability if they hope to attract investors.

Linked to political risk, inadequate regulatory regimes are cited by 32 per cent of respondents, with investors often facing uncertainty over their basic contractual rights against local partners and sovereign entities in underdeveloped legal jurisdictions.

"When we invest in Europe, we are aware of the regulatory expectation and scrutiny levels," said the managing director of one Swiss investment bank. "When investing in Asia-Pacific, especially the emerging cultures, inadequate regulatory regimes are tough to deal with. The conditions are somewhat uncertain."

To mitigate risks associated with inadequate regulatory regimes, investors need to maintain close working relationships with relevant regulatory authorities and government-backed partners. And they are encouraged, during the pandemic, to pursue joint ventures with domestic partners as a means of conducting on-the-ground deal execution and due diligence.

Which do you consider the greatest challenges to investing in infrastructure in emerging Asian economies (excluding China and India)?



Commercial risk

Commercial risk was cited by 37 per cent of respondents as the greatest challenge to investing in APAC infrastructure. Concerns around the bankability and commercial viability of large-scale public projects is arguably the most significant trend that has been accelerated by the pandemic. In November, the government of the Malaysian state of Melaka terminated an agreement with the main developer of the US$10.5 billion Melaka Gateway, a BRI infrastructure port that had promised huge trade opportunities but had raised environmental red flags.

Construction risk

Thirty-five per cent of respondents highlighted construction and delivery risk as the main challenge facing investors, suggesting perhaps a maturing market with investors gaining a better understanding of the inherent risks of each jurisdiction. This was a particular concern among APAC investors, with 46 per cent citing it compared to 28 per cent of EMEA investors and only 20 per cent of investors in the Americas.

"Once construction starts, contractors have to be careful about construction and delivery risk," said the director of investment at one Australian investment fund. "Maintaining the quality of projects is important. Unless this is achieved, projects will be faced with regulatory risks down the line. If regulatory scrutiny increases, we have to be prepared."

Sector watch

Our research shows that transportation and energy transmission and distribution remain the most popular sectors for investment. Sixty-nine per cent of firms cited roads, up from 67 per cent in 2019, while 57 per cent mentioned energy transmission and distribution, an increase of 1 per cent from 2019.

However, it is another transportation asset class—airports/ aviation—that is seeing the biggest surge in investor interest, with 53 per cent planning to invest in the sector, up from 37 per cent in 2019.

While air transport has been one of the sectors most adversely affected by COVID-19 due to travel restrictions and lockdowns, with airports the hardest hit infrastructure class, travel demand should remain healthy in the long run and pricing is likely to be attractive as a result of the pandemic. "Investing in the aviation sector will derive better revenue long term," said the managing director of one Swiss investment fund. "We cannot judge the industry solely on recent events. There will be more development projects initiated once COVID-19 cases reduce."

Low carbon, high interest

Meanwhile, with many APAC countries continuing their transition towards becoming low-carbon economies, investments in onshore and offshore wind generation are being assessed. "Offshore wind development projects will be undertaken," said the director of M&A at one Spanish sponsor. "We understand the risks and prospects well, which is why opportunities will be pursued in this segment."

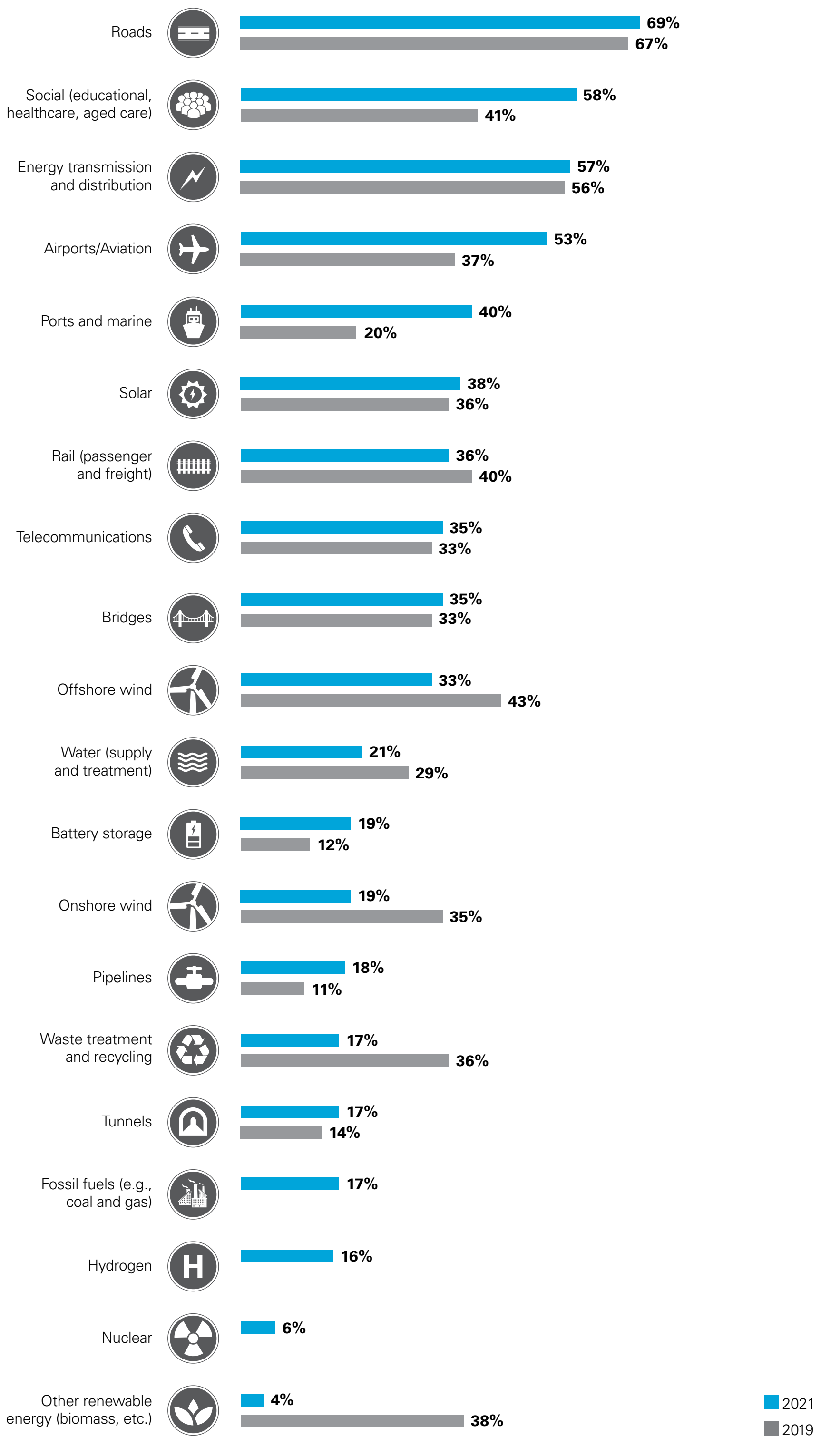
Thirty-three per cent of firms are planning to invest in offshore wind development projects in 2021, while 19 per cent are targeting opportunities in onshore wind. This is down from 43 per cent and 35 per cent, respectively, in our 2019 survey. It is likely that these drop-offs are due to previous high levels of activity in the space and the maturation of a number of developments. That said, the APAC market is expected to be one of the key hubs for both onshore and offshore wind construction activity over the next decade with many countries adding substantial volume over the short to medium term.

Social security

The big increase in sector interest is in social infrastructure, with 58 per cent of firms intending to invest in educational, healthcare and aged care management. This is up from 41 per cent in 2019, when the asset class was only the fifth highest priority for investors. This growth is most likely a direct result of the COVID-19 outbreak and the health crisis that has ensued; however it is yet to be seen whether actual opportunities can emerge quickly enough to capitalise on this sentiment.

"Amid the pandemic, social infrastructure development and the creation of health centres has been given more importance," said the head of infrastructure investments at one Singaporean investment fund. "This theme will continue in order to ensure that countries are self-sufficient to manage a health crisis."

In which infrastructure sectors do you plan to invest in Asia-Pacific?



In 2019, certain options were not put to respondents including fossil fuels (e.g., coal and gas), nuclear and hydrogen.

The COVID-19 effect

As with all regions of the world, the pandemic has had a hugely detrimental impact on the development of infrastructure in the Asia-Pacific region

For example, Chinese-sponsored projects that source construction labour and machinery from Chinese factories were suspended in the early days of the outbreak, while planning and progress for new projects was delayed.

Our survey reveals that 51 per cent of respondents agreed (24 per cent strongly) that COVID-19 would negatively impact the level of investment in APAC infrastructure in 2021. However, the perspective on this differs greatly by region. While 48 per cent of respondents from EMEA and 28 per cent from the Americas strongly agreed, only 10 per cent of APAC investors are overly concerned. This again can likely be attributed to the region's capacity to take COVID-19 mitigating measures.

In many ways, the pandemic has accelerated trends that were already evident. China was already becoming increasingly commercial and risk-aware with its overseas funding, and has for some time been shifting its focus more towards technology projects connected to its Digital Silk Road.

While it might not have been unreasonable to have expected a rise in opportunities to secure distressed infrastructure assets in 2020 as a result of the impact of COVID-19, a combination of resilient debt and equity markets globally and the stable nature of the asset class itself reduced the number of opportunities available.

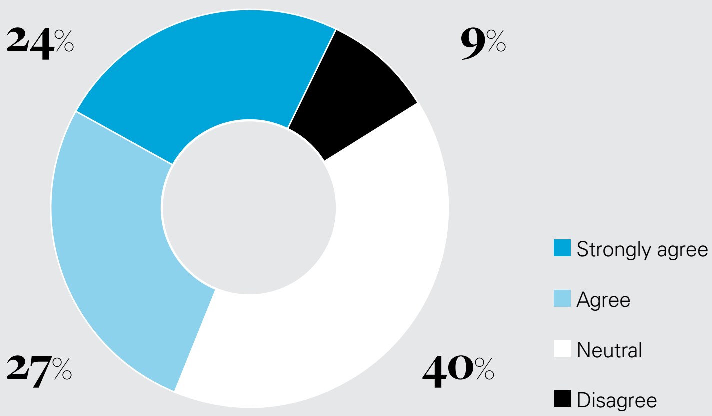
51%

agree that COVID-19 would negatively impact the level of investment in APAC infrastructure in 2021

Instead, in order to accommodate the COVID-19 risk, 55 per cent of respondents said that diversifying into new asset classes or sub-sectors was among their top-three investment decisions, with 16 per cent citing it as their most important decision. Introducing or increasing use of new investment technology was also mentioned by 47 per cent of respondents.

"COVID-19 will dictate the key themes in the Asia-Pacific infrastructure market in 2021," said the director of investment and corporate finance at one Spanish sponsor. "In regions where there are more cases, governments will be attentive to social and health concerns rather than massive railway or roadway development."

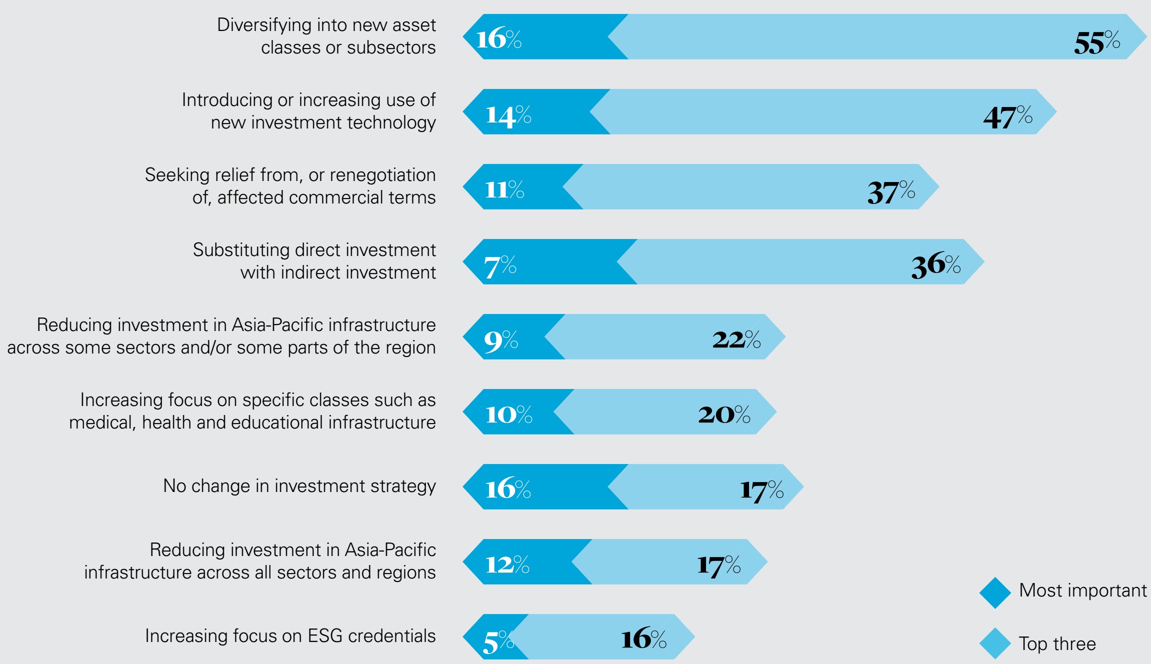
Please state to what extent you agree or disagree with the following statement: COVID-19 will negatively impact the level of investment in infrastructure in Asia-Pacific.



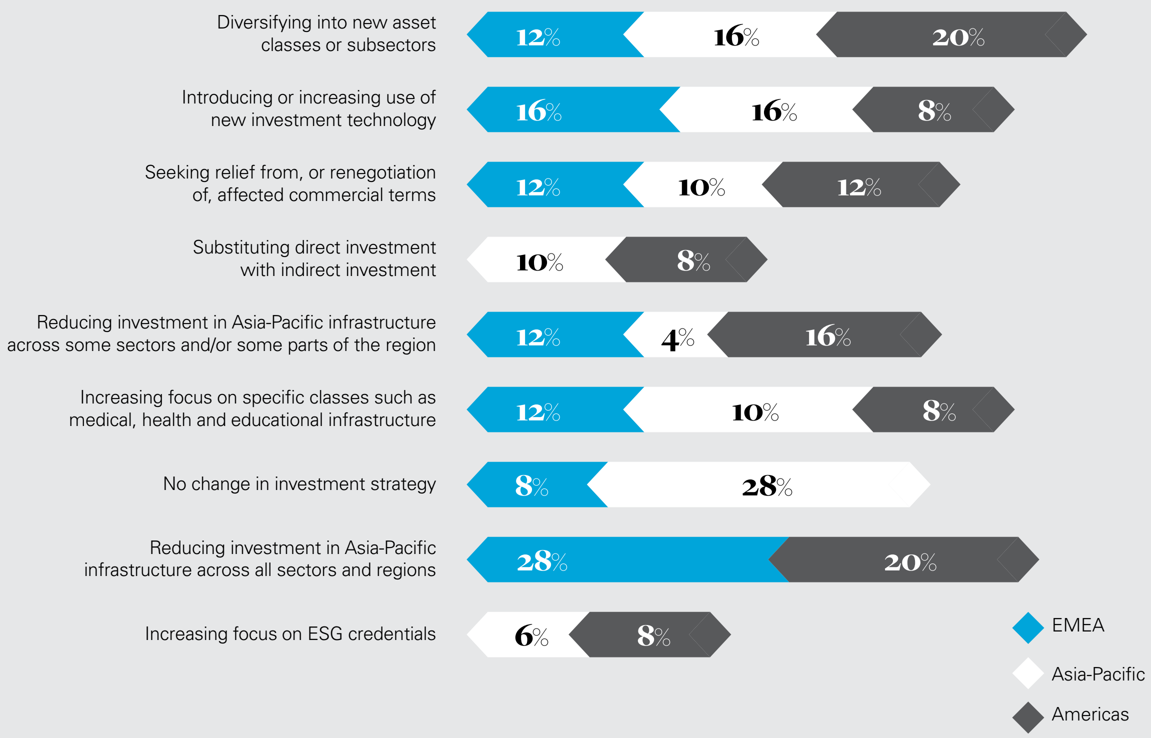
COVID-19 will dictate the key themes in the Asia-Pacific infrastructure market in 2021. In regions where there are more cases, governments will be attentive to social and health concerns rather than massive railway or roadway development

How are your investment decisions changing to accommodate the COVID-19 risk in Asia-Pacific?

Most important and top-three choices



By region



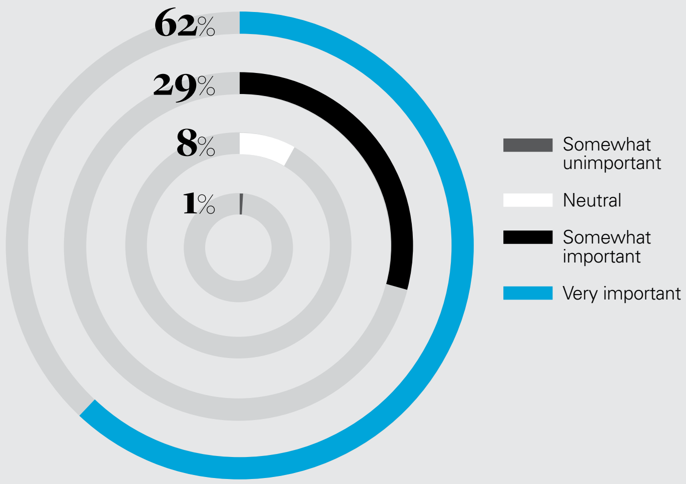
Prepare for change: Technology and sustainability

Digitalisation and ESG are transforming the face of infrastructure. Here we explore how investors are reacting to the opportunities and challenges these forces present

Technology is playing a transformative role in infrastructure development in 2021. Innovations such as machine learning, robotics and artificial intelligence (AI) are becoming increasingly vital and are likely to significantly alter the way infrastructure development occurs in the future.

"There will be more projects in the Asia-Pacific region aiming at digital connectivity," said the director of investment at one Australian investment fund. "5G and smart city projects seem more attractive to new-generation investors and they are keen on investing in technology-integrated development."

When contemplating investing in an Asia-Pacific infrastructure project, how important are technology considerations to your decision?



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5G and smart city projects seem more attractive to new generation investors and they are keen on investing in technology-integrated development

Disruption, digitalisation and demographics

Evolving demographics in Asia are creating significant opportunities for investors. According to projections by the United Nations, Asia is one of the fastest-urbanising regions in the world and will have a 64 per cent urbanised population by 2050. Such expansion places enormous strain on existing infrastructure, and so many investors are targeting tech as a sustainable and profitable solution to accommodate such explosive growth.

An example of how technology is improving efficiency and changing the way infrastructure is being built in Asia can be seen with the construction of the Putrajaya Line (PY Line) in Malaysia. Previously known as the MRT Sungai Buloh-Serdang-Putrajaya Line, the PY Line is the second rail line under

Malaysia's Klang Valley Mass Rapid Transit (KVMRT) Project and the first metro project in Asia-Pacific to adopt a Building Information Modelling (BIM) Level 2 strategy. This enables improvements in design collaboration, construction feasibility and accuracy of as-built information, resulting in greater operational predictability and efficiency gains over the first KVMRT project.

The infrastructure sector in Asia is ripe for disruption, with various applications and commercialisation methods able to improve value, efficiency, productivity, inclusion and governance. Digitalisation can also deliver sustainable outcomes. For example, digital optimisation of city transport and waste collection can minimise energy consumption and wasted time, while the digitalisation of energy grids can reduce wasted energy as well as facilitate the inclusion of renewables.

The managing director of one Canadian pension fund said: "Artificial intelligence and automation will be integrated into various infrastructure systems, such as energy and water management, to ensure optimum supply and record any capacity issues."

45%

engage in a partnership or joint venture with other entities in order to deliver transformation to infrastructure projects

Overcoming tech obstacles

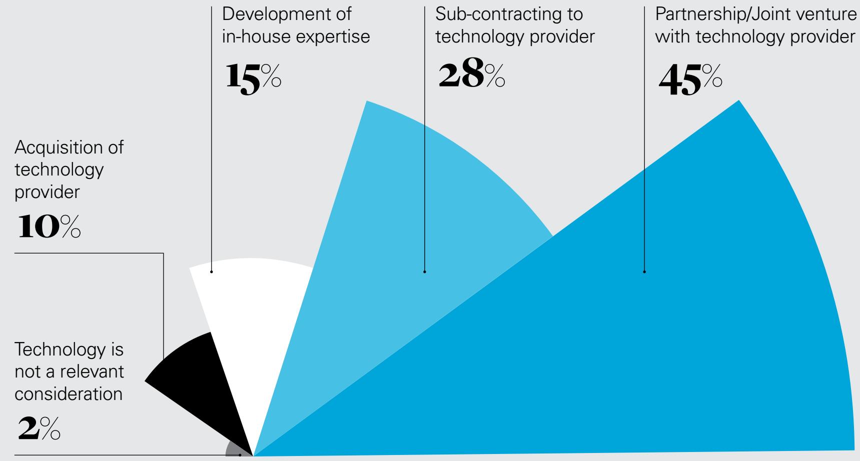
However, challenges still exist. Some of the barriers to integrating technology into infrastructure include limited market access, lack of incentives and the conservative nature of the infrastructure ecosystem.

In order to overcome such barriers and deliver technological transformation to infrastructure projects, 45 per cent of respondents said they favoured partnering or forming a joint venture with a tech provider.

"Short-term partnerships will be arranged to complete tasks swiftly," said the managing director of one Indonesian financial institution. "When it comes to technology, there will be different providers with varying degrees of expertise, so we will have a good choice for partnerships."

Twenty-eight per cent of respondents found that sub-contracting to a tech provider was the most effective solution as it saved investment in a technology network infrastructure while simultaneously allowing access to a better pool of talent. "It provides more opportunities for faster development because of their expertise in the sector," said the head of infrastructure investments at one Singaporean investment fund.

How do you engage with other entities to deliver technological transformation to infrastructure projects?



Security check

As more projects use digital and integrated technologies, data security and privacy issues could emerge. Avoiding these effectively with proper cybersecurity solutions will be essential.

Even the most conscientious company can make a false step as it captures, uses, transfers and discloses personal information. The same applies to cybersecurity, which is becoming increasingly complex. The consequences can be serious: heavy fine; injunctions; government audits; even criminal liability. Perhaps more importantly, companies that run counter to privacy and cybersecurity standards find themselves open to negative media attention and the immeasurable damage of lost consumer trust.

Cleaner, greener, leaner: ESG takes hold

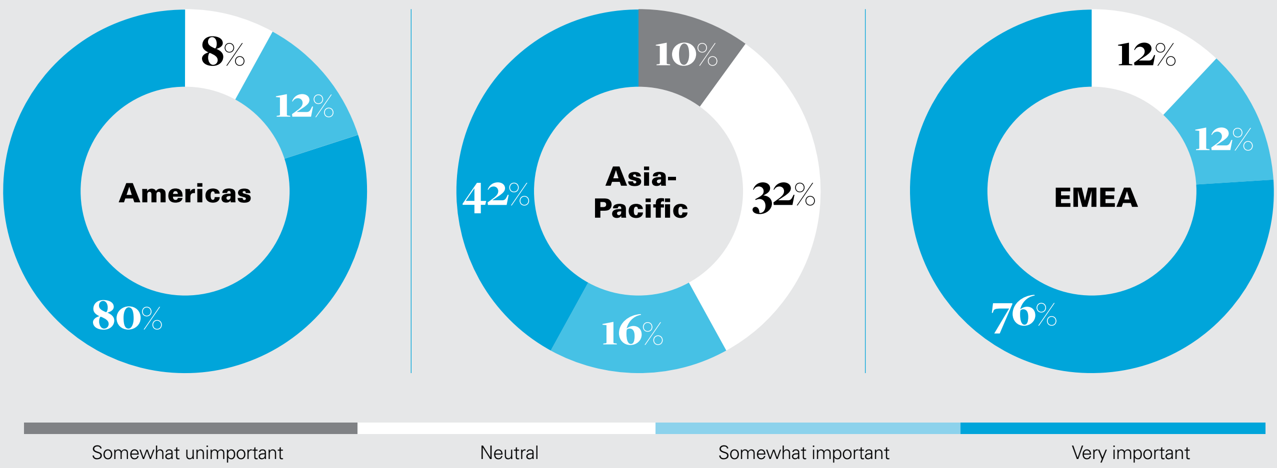
Alongside digitalisation, ESG issues are changing the face of infrastructure investment. ESG disclosures represent a different way of gauging the performance of an organisation beyond its balance sheet, focusing instead on its impact on society in general.

And when asked about key considerations for future-proofing their projects, investors reveal that an increased focus on sustainability and the green credentials of projects was the most important.

"We have a dedicated team working on evaluating the environmental impact of projects," said the director of strategic development at one UK sponsor. "There are innovative ways in which projects can reduce their carbon footprint. Some construction projects ignore these features, and we are careful about avoiding such projects that damage the environment."

Our survey shows that there is a renewed focus on the importance of strong corporate governance and sustainable and diverse supply chains, as well as on the need to finally address the climate crisis. "Sustainable development will be the key theme," said the head of strategy at one Japanese sponsor.

When contemplating investing in an Asia-Pacific infrastructure project, how important are ESG considerations?



"Environmental principles are being closely monitored by investors, and authorities in many regions are giving more importance to environmental regulations."

Other key issues around ESG concern reputational risk which can be mitigated by increased transparency and stronger reporting. As the director of investment at one Canadian pension fund said: "Business ethics and transparency are also important for determining the value of a project in the long term."

In line with this need for greater transparency, ESG-specific reporting is becoming fundamental for managers. Indeed, a 2020 survey by Russell Investment of 400 global asset managers found that 49% claimed to offer this type of reporting to clients. The pandemic and climate change concerns among investors can only grow this number.

Awareness grows

Large institutional investors are increasingly aware of pressure to ensure that investments are made in accordance with sustainable principles, and this is as much to do with future-proofing reputations as it is returns. Almost three-quarters (74 per cent) cited ESG considerations as being important when contemplating investing in an Asia-Pacific infrastructure project.

Awareness in the region of the power of sustainable finance has been slow to develop and lags behind EMEA and the Americas. This is partly due to the short-term view historically taken by many Asian investors who have understandably been preoccupied with rapid economic development. However, the need for change has become increasingly apparent, with growing levels of pollution and social inequality in the region.

Although the pandemic has reinforced the need to consider the social impact of a project and enhance internal governance processes, ESG principles were becoming better understood in Asia even before COVID-19. In Japan, for example, leading financial services group MUFG Bank announced in 2019 that it would reverse its policy of investing in coal-fired power generation projects.

Environmental issues

Fifty-five per cent of respondents to our survey cited energy efficiency as the most important consideration when thinking about the environmental impact of their investments. "Greenhouse gas emissions and energy efficiency are most important for infrastructure projects," said the senior director of investment at one Saudi Arabian pension fund. "Setting benchmark standards is important as well as putting an emphasis on green development plans."

Controlling deforestation levels was cited as a main environmental objective by some investors. "We will ascertain that there are no biodiversity issues when contemplating an investment," said the director of finance at a Chinese investment bank. "If the construction process affects marine or wildlife, we will provide suggestions and alternatives."

74%
believe ESG considerations are important when contemplating investing in an Asia-Pacific infrastructure project

Social issues

Forty per cent of respondents confirmed that labour standards were the most important consideration when thinking about the social impact of their investments. "I would say human rights, community relations and labour standards are very important for nurturing talent and avoiding social conflicts where projects are being conducted," said the head of energy in the infrastructure division of one UAE sovereign wealth fund.

While working closely to identify the interests of indigenous stakeholders was only mentioned by 18 per cent of firms—making it the fifth most important social consideration—the director of investment at one Canadian pension fund said it helped his firm understand their perspective. "They can share very useful insights about various aspects of projects based on their knowledge and expertise."

Governance issues

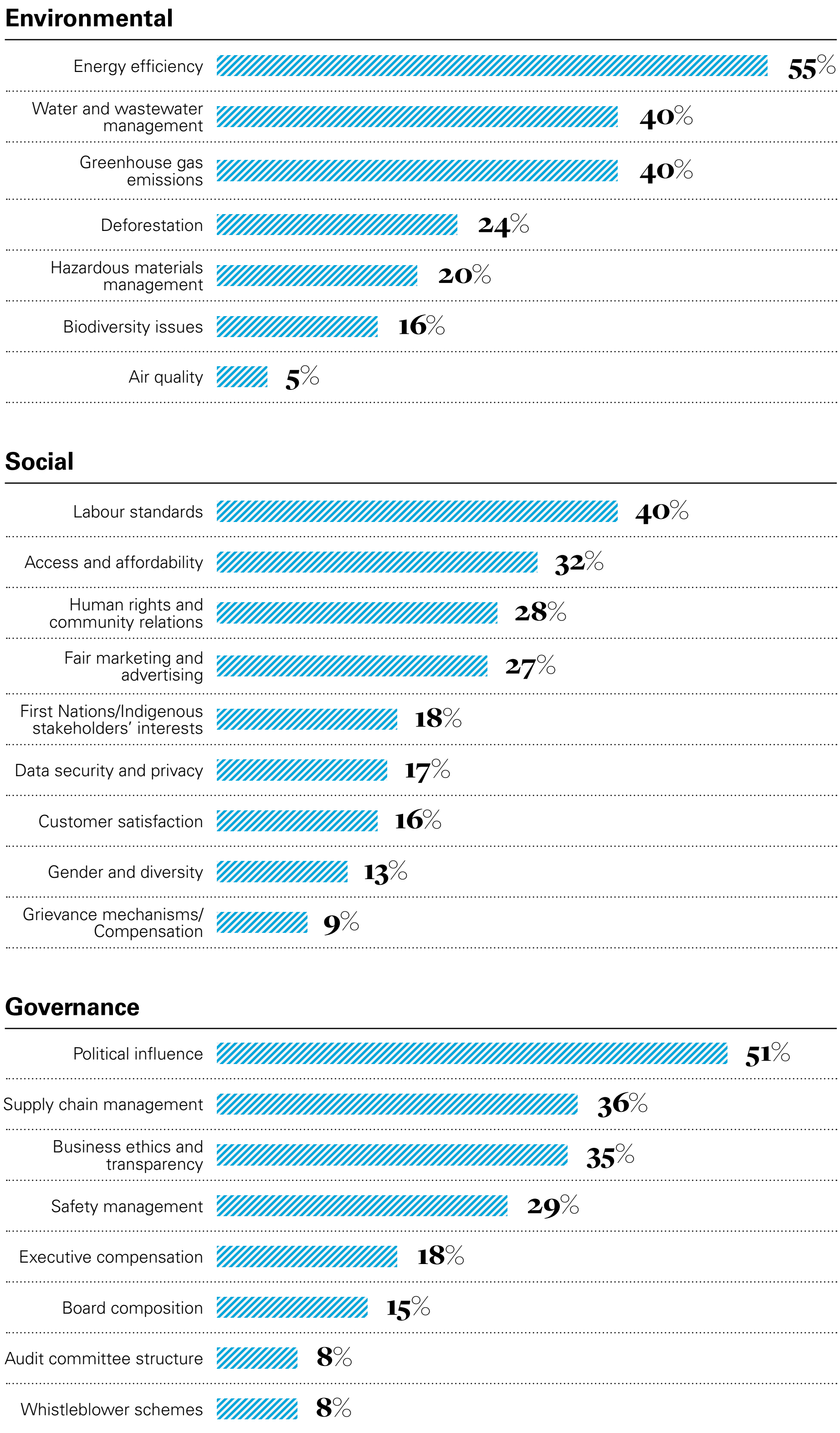
More than half (51 per cent) of respondents said that political influence was the most important governance consideration when contemplating an investment.

Regulators can play a hugely important role in helping to support sustainable investing and, in this regard, Asia has been something of a pioneer. Hong Kong's Securities and Futures Commission (SFC) has made it compulsory for listed companies to disclose all of their sustainability credentials while mainland China now requires all listed companies to report their ESG risks.

Supply chain management was cited by 36 per cent of firms as the next most important governance consideration when contemplating an investment. Supply chains have become understandably unstable during the pandemic, while many large global manufacturers previously diversified some of their supply chains out of China to cheaper countries in the region (South Korean conglomerate Samsung shifted its mobile phone manufacturing to Vietnam).

With rising regulatory pressure, emerging focus on reputational risk and increasingly complex supply chains, respondents said it was now vital that organisations take third-party risk management seriously.

What are the most important ESG considerations when contemplating investing in an Asia-Pacific infrastructure project?



The future

ESG and technology will be central to the success of all infrastructure projects in the coming years. Here we explore how investors and project leaders can meet their environmental requirements through the use of renewables and hydrogen

The future of renewables

Renewable energy trends are catching on in Asia-Pacific and are increasingly supported by governments in the region. It is hoped that renewable energy zones and the adoption of solar energy practices will open up new opportunities for investors in the future.

Sixty-four per cent of respondents agree that the financial closure of a significant number of renewable energy projects in Asia-Pacific in 2021 will have a positive influence on other infrastructure investments across the region.

"Renewable energy projects will increase because countries have set targets to be met within the next few years to reduce their carbon emissions," said the head of corporate development at one US sponsor. "Since announcements have been made, they will have to think about the means to fulfil these targets."

Nearly three-quarters agree that the generally lower capital cost of renewable energy projects compared to social and transport infrastructure makes them a relatively more attractive asset class in emerging Asian economies. "Renewables trends will catch on as more investors are focused on adopting strong ESG principles," said the senior director of investment at one Saudi Arabian fund. "There is more clarity now about the effectiveness and revenue generation capabilities of these projects."

16%

intend to invest in hydrogen as a non-carbon transportation fuel

Meanwhile, a pointer to where the market is headed can be seen by how quickly the oil majors are looking to make the transition into renewable and low-carbon projects. For example, in October last year, Shell announced it would increase its spending on low-carbon energy to 25 per cent expenditure by 2025; around the same time, its rival BP vowed to grow its investment in low-carbon energy tenfold to US$5 billion per year by 2030.

Hydrogen: The wave of the future

Given the potential to reduce the cost of energy generation and usage in Asia, 16 per cent of respondents intend to invest in hydrogen as a non-carbon transportation fuel. For a region that is still largely dependent on oil imports and is struggling to quit its addiction to coal, hydrogen offers Asian countries a 'clean' alternative and a crucial boost in their transition towards developing sustainable economies.

China and Japan are the two largest net importers of fossil fuels in the region. But the Japanese government has set an ambitious target to have a complete hydrogen society by 2050. This includes reducing the price of hydrogen by 90 per cent, which would make it cheaper than natural gas.

Meanwhile, South Korea unveiled its 'roadmap for a hydrogen economy' in 2019, with a vision to sharply increase production of hydrogen-powered vehicles and electricity generation by hydrogen. Like Japan, it has made clear its intention to import clean hydrogen from countries that can produce it competitively and reliably.

"Investors have realised the higher value there is to gain from renewable energy generation practices," said the director of finance at one Indonesian sponsor. "The use of battery and hydrogen storage will form a major part of renewables projects."

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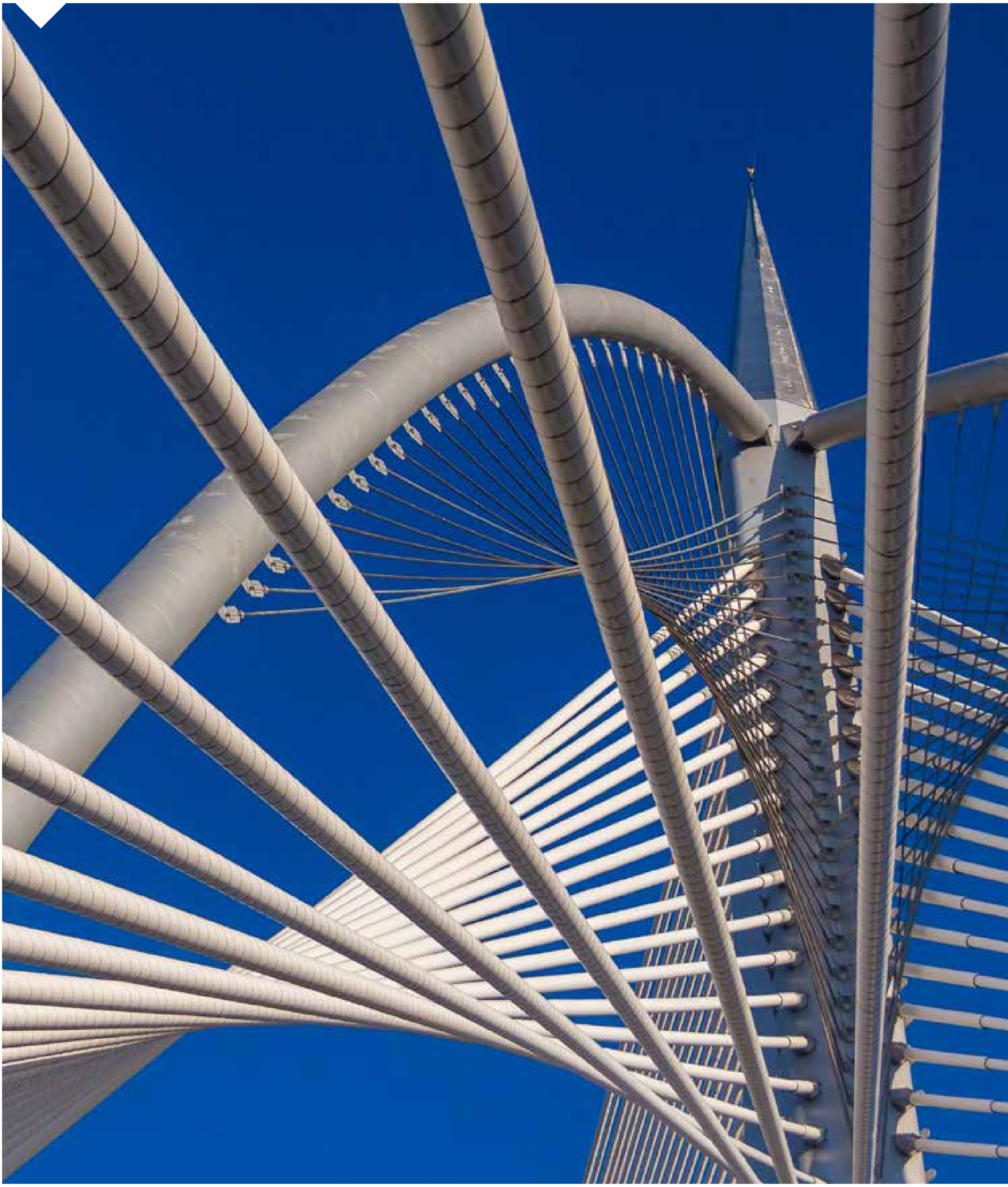
Investors have realised the higher value there is to gain from renewable energy generation practices. The use of battery and hydrogen storage will form a major part of renewables projects



Eye on the future: The outlook for Asian infrastructure

The future is bright for the asset class in the region. Here we explore investor' vision for the future

The pandemic has dealt a heavy blow to government budgets and containing the virus, and supporting households and businesses have taken priority over financing infrastructure projects.

As a result, governments around the region are focused on turning infrastructure projects into an asset class that can attract an increasingly diverse range of institutional investors.

For their part, investors remain extremely bullish over the long-term fundamentals of the Asia-Pacific infrastructure sector. Meanwhile, our survey has shown they are prioritising technology transformation and ESG considerations into their decision-making. Looking ahead, investors are focusing on new financing routes, enhanced partnership models, changing risk mitigation strategies and a brighter future.

Private funding comes to the fore

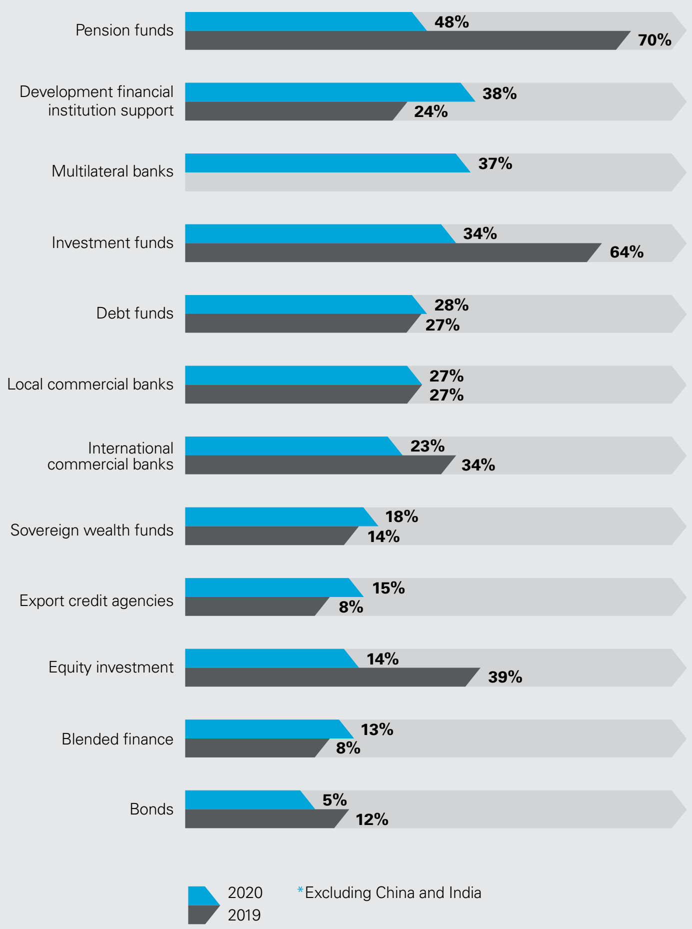
The severe disruption caused by the pandemic has created uncertainty in the valuation of many infrastructure assets. In an M&A context, this has made it difficult to assess future earnings when negotiating a sale of infrastructure assets. As a result, many respondents believe that some sources of finance will be restricted.

"Funding sources will change as traditional banking and financing units become more conservative

38%

said that development financial institution support would be the most suitable source of finance in this sector, up from 24% in 2019

Which sources of financial investment do you see as most suitable for Asia-Pacific infrastructure?



during the resulting recession," said the director of investment at one Canadian investment bank. "Alternative funding sources are more likely to be popular, even with the higher risk."

While private capital tends to avoid riskier greenfield construction projects because of frequent delays and escalating costs, more mature brownfield sites are attracting a variety of financing sources.

Whereas two years ago, 70 per cent of respondents believed that pension funds would be the main source of investment in infrastructure in Asia, only 48 per cent agree with that statement in this year's survey. Instead, 38 per cent of respondents said that development financial institution support would be the most suitable source of finance in this sector, which is up on the 24 per cent who mentioned it two years ago.

Private equity funds are also expected to be more active in the region in 2021, with many having kept their dry powder in 2020. For example, New York-based firm KKR closed its first fund focused on infrastructure investment across Asia-Pacific in January. The US$3.9 billion fund, which is a record size for the region, will invest in sectors such as waste, renewables, power and utilities, telecommunications and transport infrastructure.

PPPs: The pathways to partnerships

When it comes to delivering projects, half of all respondents agreed that public-private partnerships (PPPs) will be the preferred method for emerging Asian economies to deliver infrastructure projects over the coming year. While this is less than the 71 per cent who favoured such partnerships in 2019, PPPs are being increasingly used in Asia although the level is still low compared with other regions.

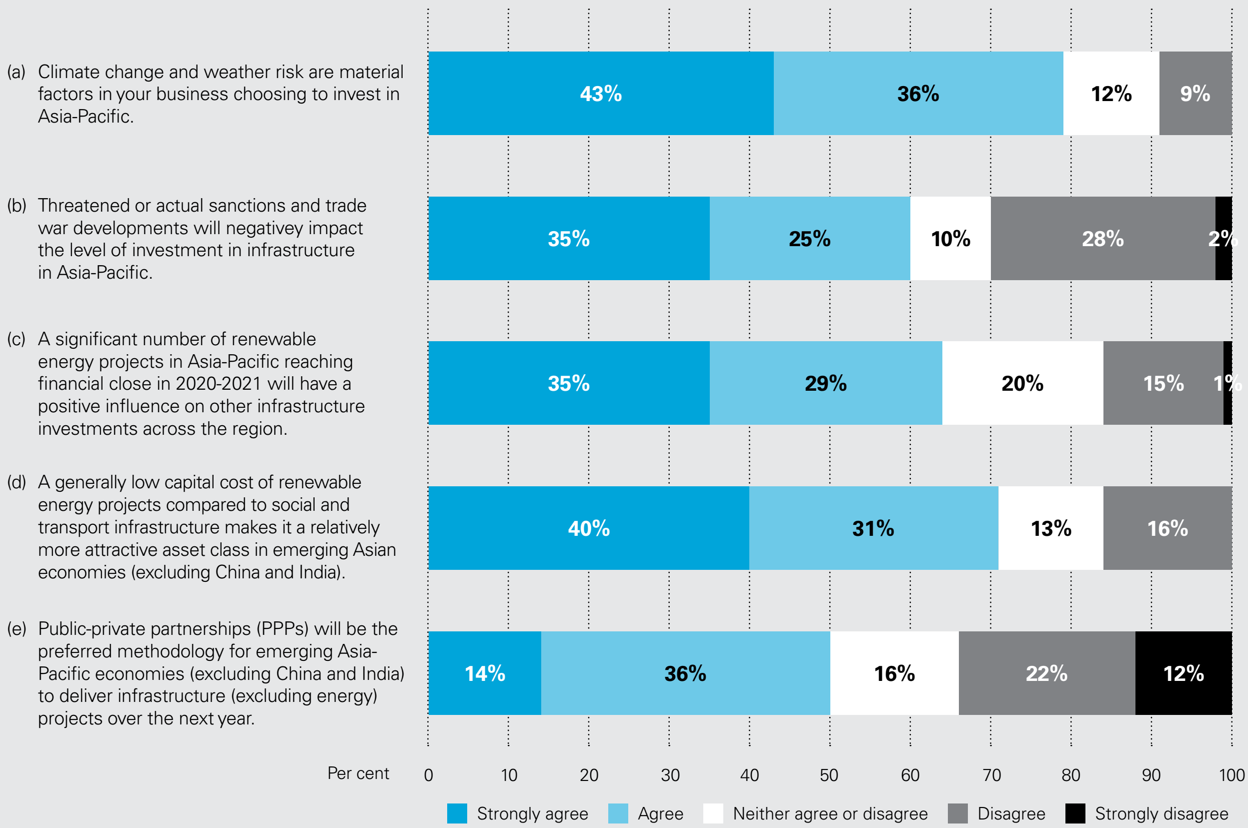
However, the sectoral and regional spread can be extremely uneven. According to the Asian Development Bank, more than 80 per cent of PPPs that reached financial close in Asia over the past two decades were in the transport sector, and the story is equally unbalanced across countries. More than 70 per cent are in East Asia and South Asia, and 90 per cent of that share is in India and China. However, PPPs are gaining ground in Southeast Asia, particularly in the larger economies of Indonesia, Malaysia, the Philippines, Thailand and Vietnam. Part of the problem is the varying definitions and interpretations of PPPs across the Asia-Pacific region.

The increased use of PPPs as a procurement method by countries

43%

agree strongly that climate change and weather risk are material factors in a business choosing to invest in Asia-Pacific

Please state to what extent you agree or disagree with the following statements:



is driven by expectations that such partnerships deliver better quality and more affordable infrastructure services. However, weak governance in many developing Asian countries is not helping to attract private sector investment in infrastructure PPPs. Feedback from survey respondents suggests that Asian countries should focus more on regulatory and institutional reforms needed to make infrastructure more attractive to private investors and generate a pipeline of bankable projects for PPPs. These reforms could include enacting PPP laws, streamlining procurement and bidding processes, introducing dispute resolution mechanisms and establishing independent PPP government units.

Mitigating risk in a changing world

When asked about risks to future projects, 79 per cent of investors agree that climate change and weather risk is a material factor when choosing to invest. In order to mitigate such risk, 46 per cent said they would focus more on innovation and technological advancement. This represents a significant shift in mindset from 2019, when only 13 per cent said the same.

Meanwhile, 60 per cent of respondents agreed (35 per cent strongly) that threatened or actual sanctions and trade war developments will negatively impact their level of investment in infrastructure in Asia-Pacific.

"When investing in Asia-Pacific, some regions are more vulnerable to global geopolitical events and policy decisions taken by developed countries," said the CFO of one Malaysian sponsor. "Increased planning for sustainable development and encouraging a transparent dialogue between parties is essential."

While more than half of respondents cited 'wealth of opportunity' as the greatest benefit to investing in Asia-Pacific infrastructure, as a result of the pandemic some investors may only pursue acquisition opportunities this year in sectors or jurisdictions which are familiar to them. "We have been active in healthcare and highway management projects in Malaysia, and we are ready to invest more in the markets where we have knowledge and experience," confirmed the CFO of one Malaysian sponsor.

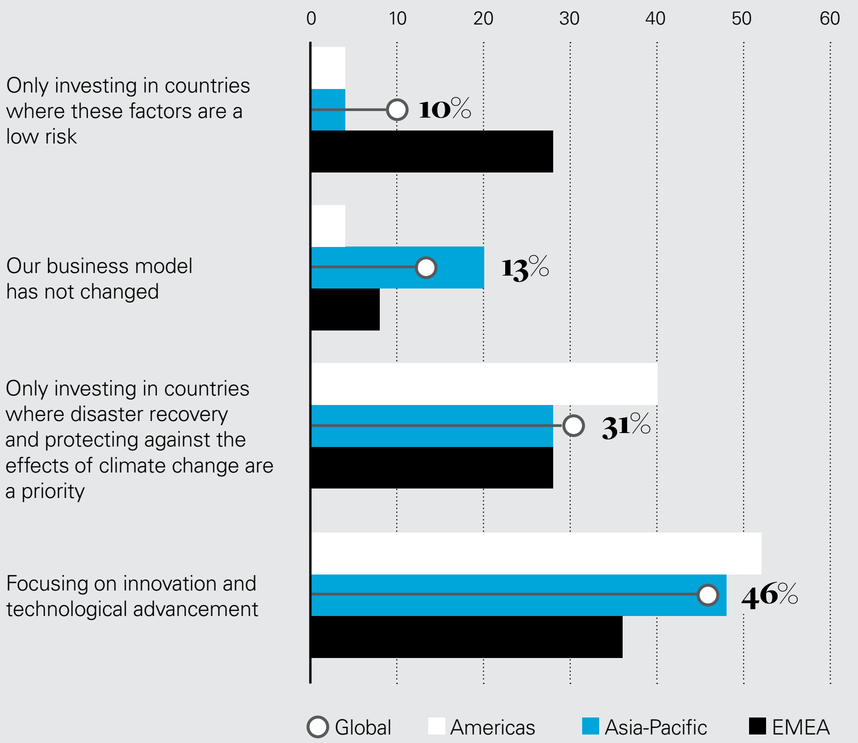
46%

of Asia-Pacific investors will focus on innovation and technological advancement to accomodate climate change and weather risk in Asia-Pacific

A bright future

Overall, the prospects for infrastructure investment in the region are extremely positive. While COVID-19 has had a significant impact on the development and financing of infrastructure across the region, some of that change is benefitting project lenders and investors. The pandemic is accelerating investment in low-carbon and climate-resilient infrastructure, and projects that enhance digital connectivity and public health. And as our survey shows, these two areas—ESG and digitalisation—are set to dominate the infrastructure market for the foreseeable future.

How is your business changing to accommodate climate change and weather risk in Asia-Pacific?



AP202102-014_17

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