Opportunity2030
The Standard Chartered SDG Investment Map

Standard Chartered

Research scope

Opportunity2030: The Standard Chartered SDG Investment Map is designed to provide companies, institutional investors and other stakeholders with an overview of where their investments could have the greatest impact in contributing to the UN's Sustainable Development Goals (SDGs). Our study spans 15 of the world's fastest-growing economies and estimates the potential private-sector investment opportunity within three of the most investment-ready SDGs.

The study draws on global data sources and indicative private-sector participation rates to ascertain the potential private-sector investment opportunity in each country. The study does not attempt a comprehensive ground-up analysis of each country's requirements. Some countries, particularly in Africa and South Asia, will struggle to mobilise capital on the scale we suggest, and may reach some of the SDG targets later than 2030. Other countries, however, may power ahead and invest more than we indicate. We have taken *average* private-sector participation rates in each sector to identify the private-sector opportunity; actual participation rates vary considerably. Overall, however, the need to mobilise more finance to reach the SDG targets is likely to see the private sector's role expand in many markets in the coming years. Greater private-sector engagement with the SDGs will help in that process.

This report should not be used as a source for actual investment decisions, and none of its contents should be construed as financial advice.

Contents

Foreword

The UN's 17 Sustainable Development Goals (SDGs) are amongst the most ambitious projects humanity has ever attempted. They represent our best hope of tackling the most serious challenges facing our societies and our planet. The investment required to meet the targets by 2030 cannot be provided by governments and NGOs alone. The private sector has a critical role to play if we are, collectively, to achieve the SDGs.

While many investors, corporations and financial institutions say they are committed to achieving the SDGs, capital is not flowing at the required speed to the countries where SDG investment matters most. In emerging markets[1] alone, the UN estimates USD3.9 trillion per year will be required to reach all 17 goals by 2030. At the current rate of investment, the UN has calculated a gap of USD2.5 trillion per year.[2]

As we enter a new decade, it is critical that investors embrace the SDGs at pace and at scale: we have 10 years to deploy the capital and capabilities at our disposal to help build a sustainable future for the planet. There can be no purpose more worthwhile.

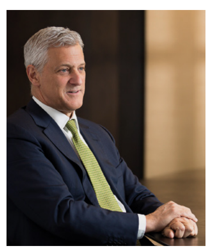
Until now, there has been little data at an individual country or SDG level to identify the investment needed to meet the goals, and it has been difficult to identify where the opportunity to participate is greatest for the private sector. Our Opportunity2030 study aims to address this – providing investors and corporations who are serious about their commitment to the SDGs with a map of the potential investment opportunities across three of the most tangible, infrastructure-focused goals.

The challenges of mobilising SDG investment, particularly in emerging economies, are real. But barriers are coming down and new thinking is helping to channel capital into countries that have previously found it difficult to attract private investment. Innovative forms of finance such as blended finance and sustainability bonds are providing the mechanism for investors and corporates to rise to the challenge.

At Standard Chartered we are equally at home in the emerging economies that are most in need of investment and in the more developed economies that can provide that investment. We know we have a pivotal role to play in helping our markets realise the SDGs.[3] We are playing our part to tackle climate change, having committed to facilitating and financing USD35 billion worth of cleantech and renewables between 2020 and 2025, with a focus on emerging markets. Alongside this, we have ceased financing new coal-fired power plants, will phase out our exposure to thermal coal by 2030, and are taking decisive steps to measure, manage and reduce the emissions from the activities we finance.

Beyond climate change, we have mobilised USD1 billion in microfinance, placed the world's first 'blue bond' and last year we launched our first Sustainability Bond, raising EUR500 million to fund projects aligned to the SDGs in emerging markets. And we are only just getting started. The private sector can, and must, do more, and we intend to lead the way.

While the SDGs may be extraordinary in their ambition, they offer a unique opportunity for the private sector to deploy capital to generate strong returns while enabling long term sustainable development. Currently, not enough of this capital is reaching the countries that need it the most. With just a decade to go, the time to act is now.



Bill Winters
Group Chief Executive,
Standard Chartered

[1] For the purposes of this study, emerging markets are defined as all countries except high-income markets in the World Bank income classifications

[2] View UNCTAD's World Investment Report 2014: Investing in the SDGs: An Action Plan

[3] View Standard Chartered's Sustainability Aspirations 2019

Brief methodology

Opportunity2030 sets out the potential private-sector investment opportunity in helping to tackle some of the world's most urgent challenges. Our study examines the opportunity for investors to contribute to three of the most tangible, infrastructure-focused UN Sustainable Development Goals (SDGs) in 15 of the world's fastest-growing economies where investment in the SDGs matters most. We have focused on four indicators – water and sanitation services; power; telecoms (digital access); and transport infrastructure – that sit under three of the SDGs:

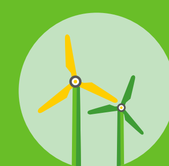
SDG 6: Clean Water and Sanitation

Access to basic water and sanitation services, measured by an average of:

Percentage of population with access to at least basic drinking water; and

Percentage of population with access to at least basic sanitation services.

SDG 7: Affordable and Clean Energy



Access to power, measured by:

Percentage of population with access to electricity.

SDG 9: Industry, Innovation and Infrastructure

Digital access, measured by a weighted blend of:

Percentage of population using the internet (80 per cent weighting), and;

Number of mobile-cellular subscriptions per 100 inhabitants (20 per cent weighting).

Availability of quality, reliable, sustainable and resilient transport infrastructure, measured by:

An increase in the infrastructure score under the 'Logistics Performance Index' (LPI).

Total investment required to achieve the SDGs

Our proprietary economic model uses available global data to examine the total investment required by each country to achieve and maintain universal access in the first three sectors above – water and sanitation, power and telecoms. This total investment covers maintaining the service for those already receiving it and extending it to people who do not currently have it (taking into account projected increases in population), while our power calculation also accounts for expected changes to GDP per capita, an important driver of energy consumption.

For the fourth indicator – developing better transport infrastructure – we measure the investment required to maintain existing infrastructure and achieve a significant improvement in the Logistics Performance Index (LPI) score. The LPI is an indicator created and reported by the World Bank.

Calculating the potential private-sector investment opportunity

For each indicator, our model shines a spotlight on the opportunity for investors. It uses global estimates for average private-sector participation rates in infrastructure projects across developing countries to reveal the potential private-sector investment opportunity in each of the 15 countries we studied.

Note: see Methodology for further details (p.50).

Executive summary

The USD10 trillion investment opportunity

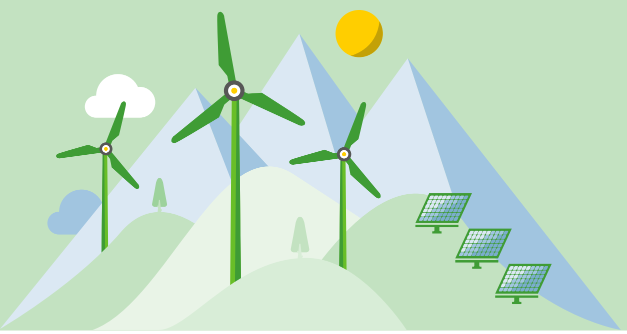
The private sector has a critical role to play in meeting the UN's Sustainable Development Goals (SDGs) over the next decade. Not only is it expected that private investors will contribute their share, there is a clear business case for doing so as, increasingly, investors build environmental, social and governance risk into their decision-making and seek to act in the interests of a broader range of stakeholders.

Opportunity2030: The Standard Chartered SDG Investment Map reveals for the first time the scale of the almost **USD10 trillion (USD9.668 trillion)** private-sector investment opportunity in contributing to three of the most tangible, infrastructure-focused goals – SDG 6: Clean Water and Sanitation, SDG 7: Affordable and Clean Energy and SDG 9: Industry, Innovation and Infrastructure.

Within these SDGs, this study details the specific investment opportunity in 15 high-growth markets across Asia and Africa. Achieving universal access to electricity represents the greatest opportunity for private investors, followed by funding significant improvements to transport infrastructure, full digital inclusion and universal access to water and sanitation.

Key findings SDG 7: Affordable and Clean Energy

Clean, renewable energy sources are crucial for combating climate change, while ensuring universal access to electricity is fundamental for providing people with a basic standard of living. Our study focuses on measuring the finance needed to provide electricity access, with more than one in 10 people worldwide still lacking a safe and reliable power supply. While four of the markets in our study have already achieved this goal, and four are very close (with at least 90 per cent access), a substantial opportunity remains for the private sector to help achieve and maintain universal access:



- The total private-sector investment needed in generation and transmission of electricity in all emerging markets by 2030 is an estimated **USD4.226 trillion**
- Considering projected GDP per capita and population growth, the greatest private-sector investment opportunities for those markets which do not currently have full access are in **India (USD701.5 billion), Indonesia (USD147.5 billion) and Bangladesh (USD73.9 billion)**
- In Uganda, where just 22 per of the population have access to electricity, there is a USD6.1 billion private-sector investment opportunity to help achieve universal access by 2030

Key findings SDG 6: Clean Water and Sanitation

Globally, three in 10 people do not have access to safe drinking water and six in 10 people do not have access to safe and clean sanitation facilities,[4] severely affecting their health and livelihoods. Among the countries in our study, access levels vary from 34 per cent (Uganda) to 55 per cent (Nigeria) in Africa, and between 73 per cent (Bangladesh) and 99 per cent (Thailand) in Asia, representing a significant opportunity for the private sector to help achieve and maintain universal access:

- The total private-sector investment needed in water and sanitation in all of the world's emerging markets by 2030 is an estimated **USD125.4 billion**
- The greatest investment opportunities are in **China (USD26.1 billion) and India (USD19.2 billion),** given their large populations
- Zambia could present a big opportunity to make an impact. The country has the smallest population in our study, but just 43 per cent of the population have access to water and sanitation, giving the private sector a USD0.7 billion investment opportunity to help achieve universal access by 2030

Key findings SDG 9: Industry, Innovation and Infrastructure

Transport infrastructure

Infrastructure is vital for countries to achieve sustainable and inclusive economic growth. In our study we focus on transport infrastructure, which is essential for boosting trade and productivity. While the majority of transport infrastructure is typically public-sector funded, there is a great opportunity for private investors to become involved:

- Achieving significant improvements to transport infrastructure, a key component of SDG 9, will require an estimated **USD3.674 trillion** of private-sector investment in all emerging markets
- The greatest investment opportunity is in China, where we project a potential private-sector investment opportunity of **USD2.310 trillion**
- In Sri Lanka, where less capital is required to achieve significant improvements, there is nevertheless a USD4.6 billion private-sector investment opportunity

Digital access*

An estimated 3.8 billion people globally (including 80 per cent of the population of the least developed economies) do not have access to the internet, and 16 per cent of the population lack access to mobile broadband networks.[5] Among the 15 markets in our study, digital access rates vary between 27 per cent (Pakistan) and 85 per cent (Malaysia), and achieving and maintaining universal access will take significant investment, with the majority likely to need to come from private sources:

- Achieving and maintaining universal digital access presents a potential private-sector opportunity of **USD1.642 trillion** in all emerging markets
- The greatest private-sector investment opportunities can be found in **China (USD492.8 billion), India (USD226.5 billion), Indonesia (USD53.7 billion) and Nigeria (USD47.4 billion)**
- In Malaysia, which boasts a digital access rate of 85 per cent, the highest among the markets we have examined, there is still a USD8.8 billion potential private-sector opportunity to achieve universal access

[4] View the UN's SDG 6 facts and figures
[5] View the UN's SDG 9 facts and figures
* Comprising mobile phone subscriptions rates and internet connectivity levels

Clean Water and Sanitation

Investing in SDG 6

Investor snapshot

With USD1.254 trillion required across all of the world's emerging markets, and an average private-sector participation rate of 10 per cent, the potential opportunity for investors looking to help achieve universal access to water and sanitation by 2030 is USD125.4 billion. The greatest investment opportunities are found in China (USD26.1 billion) and India (USD19.2 billion), driven by their large populations.

China's relatively high ease of doing business score (77.9, ranking 31st in the world), boosted by recent rapid improvements in the process of obtaining construction permits,[6] indicates that it is an attractive place to invest in infrastructure. Investors seeking to have the greatest impact should look to Africa, where low existing levels of access to water and sanitation mean the need is greatest. In Uganda, for instance, there is a USD0.8 billion private-sector investment opportunity. As well as offering potential returns, this investment would help to maintain existing access and bring water and sanitation to the remaining 66 per cent of the population by 2030.

[6] View the World Bank press release: "Doing Business 2020: China's Strong Reform Agenda Places it in the Top 10 Improver List for the Second Consecutive Year"

Sustainable Development Goal 6

Ensure access to clean water and sanitation for all

An insufficient supply of clean water and sanitation impacts billions of people globally, limiting access to work and education, causing disease, and compounding the problem of malnutrition.

Although substantial progress has been made in the last decade, three in 10 people globally still don't have access to safe drinking water and six in 10 people do not have access to safe and clean sanitation facilities.[7]

The impacts of this are profound and wide-reaching. Worldwide, each day nearly 1,000 children die due to preventable water and sanitation-related diseases. A lack of on-site water is also a barrier to gender equality: in 80 per cent of households without water on the premises, women and girls are responsible for collecting water,[8] preventing them from becoming economically active. Improving access would free up their time to boost their life chances.

Universal access to water and sanitation by 2030

The potential private-sector opportunity

According to our research, the total investment needed to achieve and maintain universal access to clean water and sanitation across all emerging markets by 2030 is estimated to be USD1.254 trillion. Considering average private-sector participation rates of 10 per cent, the potential private-sector investment opportunity in achieving universal access to water and sanitation in emerging markets by 2030 is:

USD125.4bn

[7/8] View the UN's SDG 6 facts and figures

"

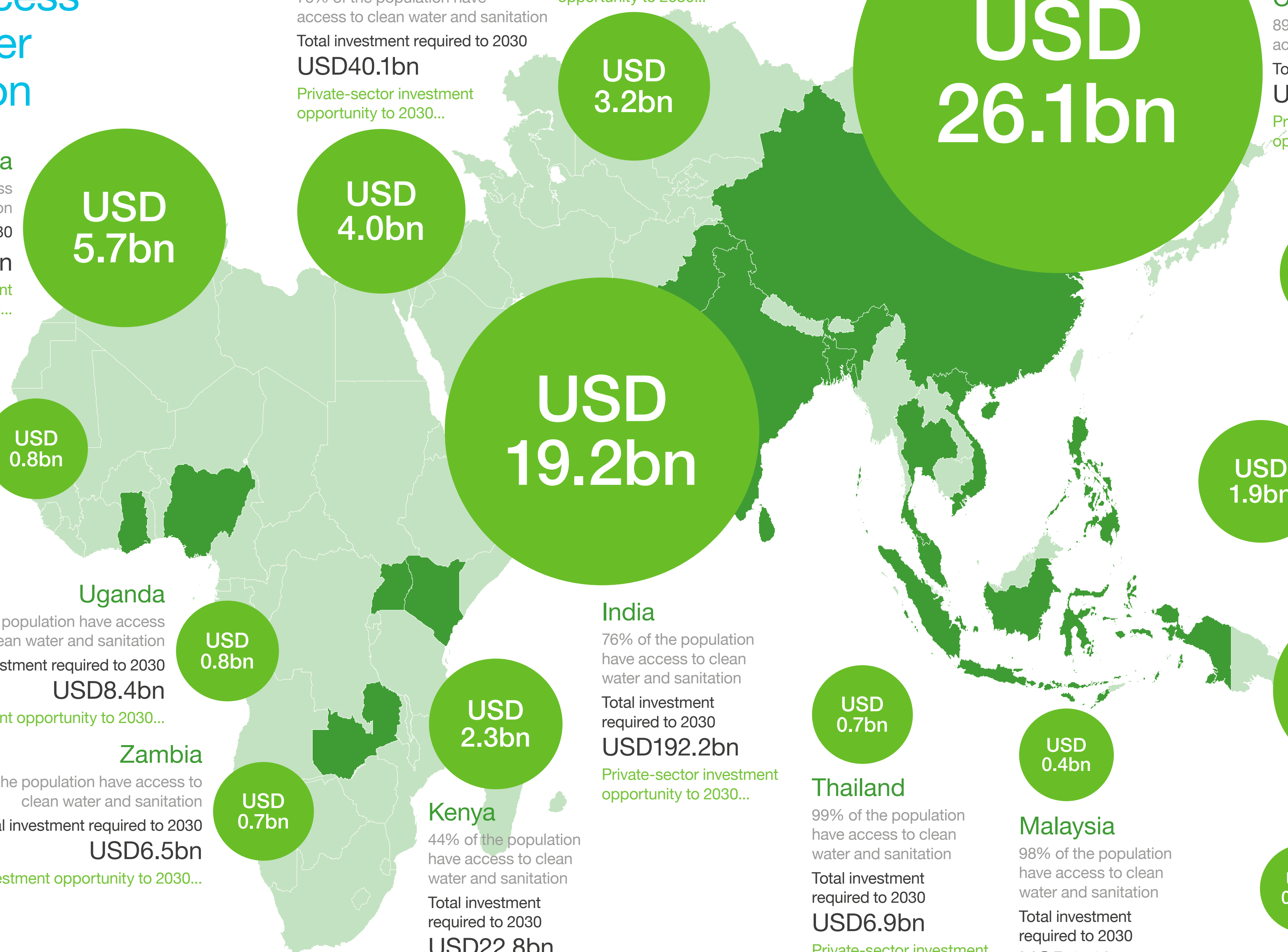
Rapid industrialisation and urbanisation in low-to middle-income countries make water and sanitation one of the most important areas for public and private investment.

Well-structured investments in this sector benefit from stable long-term returns with limited downside volatility. This is also an excellent sector for impact investing, as the potential social effects are so positive. Improved water supply and sanitation, alongside better management of resources, is a key lever for improving markets' economic growth.

However, social infrastructure projects in emerging markets typically require long-term concessions with government-linked entities. To increase chances of success, investors should work closely with host governments, local utility companies, export credit agencies, multilateral development organisations and institutions with long track records in the market.

James Cameron, Global Head, Power, Utilities, Infrastructure, Standard Chartered

Potential investment opportunity for universal access to clean water and sanitation



Nigeria
55% of the population have access to clean water and sanitation
Total investment required to 2030
USD57.1bn
Private-sector investment opportunity to 2030...
USD 5.7bn

Ghana
50% of the population have access to clean water and sanitation
Total investment required to 2030
USD8.4bn
Private-sector investment opportunity to 2030...
USD 0.8bn

Uganda
34% of the population have access to clean water and sanitation
Total investment required to 2030
USD8.4bn
Private-sector investment opportunity to 2030...
USD 0.8bn

Zambia
43% of the population have access to clean water and sanitation
Total investment required to 2030
USD6.5bn
Private-sector investment opportunity to 2030...
USD 0.7bn

Pakistan
76% of the population have access to clean water and sanitation
Total investment required to 2030
USD40.1bn
Private-sector investment opportunity to 2030...
USD 4.0bn

Bangladesh
73% of the population have access to clean water and sanitation
Total investment required to 2030
USD31.7bn
Private-sector investment opportunity to 2030...
USD 3.2bn

India
76% of the population have access to clean water and sanitation
Total investment required to 2030
USD192.2bn
Private-sector investment opportunity to 2030...
USD 19.2bn

Kenya
44% of the population have access to clean water and sanitation
Total investment required to 2030
USD22.8bn
Private-sector investment opportunity to 2030...
USD 2.3bn

China
89% of the population have access to clean water and sanitation
Total investment required to 2030
USD261.3bn
Private-sector investment opportunity to 2030...
USD 26.1bn

Vietnam
89% of the population have access to clean water and sanitation
Total investment required to 2030
USD13.1bn
Private-sector investment opportunity to 2030...
USD 1.3bn

Philippines
85% of the population have access to clean water and sanitation
Total investment required to 2030
USD18.7bn
Private-sector investment opportunity to 2030...
USD 1.9bn

Indonesia
81% of the population have access to clean water and sanitation
Total investment required to 2030
USD40.5bn
Private-sector investment opportunity to 2030...
USD 4.0bn

Thailand
99% of the population have access to clean water and sanitation
Total investment required to 2030
USD6.9bn
Private-sector investment opportunity to 2030...
USD 0.7bn

Malaysia
98% of the population have access to clean water and sanitation
Total investment required to 2030
USD3.9bn
Private-sector investment opportunity to 2030...
USD 0.4bn

Sri Lanka
93% of the population have access to clean water and sanitation
Total investment required to 2030
USD2.1bn
Private-sector investment opportunity to 2030...
USD 0.2bn

Investing in infrastructure to supply clean water
Kafulafuta Water Supply, Zambia

The Kafulafuta Water Supply System, which was partly funded by Standard Chartered, involves the construction of a dam and other infrastructure to supply water to up to one million people in Zambia's Copperbelt Province. Development of the USD449 million project began in 2018 and has created employment for 1,000 people. This vital piece of infrastructure is expected to drastically reduce water losses while increasing the local water supply to 24 hours a day.

The pivotal role of private-sector investors

Substantial financial resources are needed to reach the targets for clean water and sanitation. On average only around 10 per cent of the total investment in water and sanitation projects in emerging markets comes from the private sector, although some countries see up to 20 per cent participation. In developed economies, the average rate of private-sector investment is much higher (ranging from 20 to 80 per cent). There is an opportunity for emerging markets to make more use of funding mechanisms employed by more developed markets such as public-private partnerships (PPP). New and innovative solutions such as sovereign 'blue bonds' specifically to finance water infrastructure could be another option.

The 2018 UN Synthesis Report on Water and Sanitation suggested that the capital investment necessary to achieve the targets is around three times the current level of investment.[9] Funding for water and sanitation largely comes from tariffs (charges levied by providers), taxes (government) and transfers (such as international aid). The other major source of financing is repayable, or commercial, finance: there is significant scope for greater adoption of this type of funding, which is relatively underused at present.

Water projects requiring a large amount of upfront capital have long investment horizons. The sector is not always seen as attractive to investors due to challenges such as insufficient tariffs to cover recurrent costs, low tariff collection rates, relatively weak regulatory frameworks and low revenue streams. A shift is needed to make the water and sanitation sector more attractive to private finance. The World Bank has suggested that if the use of existing financial resources is improved alongside sector reforms, this should lead to efficiency improvements and increased creditworthiness, ensuring increased access to repayable and commercial financing which can then be invested in further service improvements.[10]

The UN finds that progress has been made against SDG 6 since 2015, but that there is still a long way to go. The proportion of the global population using clean, accessible water increased from 61 to 71 per cent between 2000 and 2015, and remained unchanged from then until 2017. The global population using safe sanitation services increased from 28 per cent in 2000 to 43 per cent in 2015, rising to 45 per cent in 2017.[11] By investing in projects that contribute to SDG 6, private-sector investors can achieve a positive return and have a real and significant positive impact on the lives of billions of people across the globe.

Why invest in SDG 6: Clean Water and Sanitation?

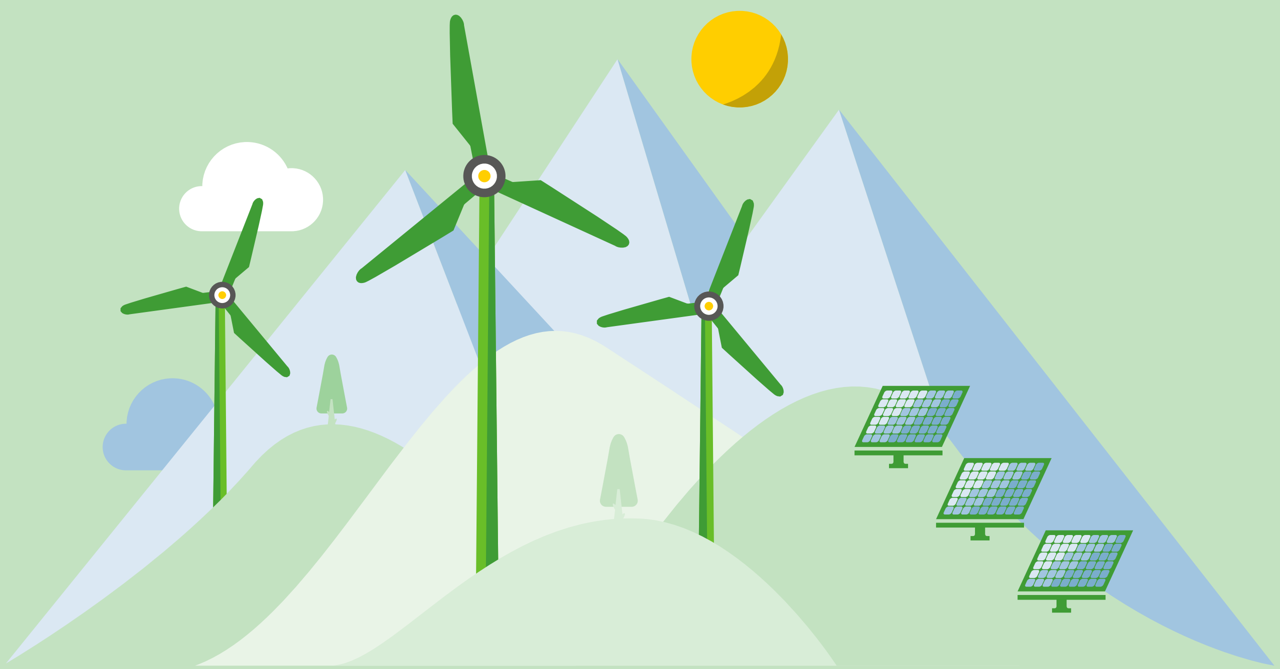
- Access to clean water is essential for preventing the spread of disease. Proper water treatment also benefits the environment and can boost economic performance, for example in fisheries, tourism and property markets
- In emerging markets, the cost-to-benefit ratio of money spent on water and sanitation projects can be as high as seven to one, as projects like wastewater treatment can generate significant benefits for public health, the environment, and certain economic sectors including tourism[12]
- With private investment providing an average of just 10 per cent of funding for water and sanitation projects in emerging markets, there is great potential for growing private investment in this sector. This investment boost could help governments tackle the challenges they face in managing their water resources effectively

What are the challenges?

- Water and sanitation sectors have traditionally been unattractive to private finance because they can have lower revenue streams than other sectors and regulatory frameworks are not always strong in emerging markets
- Investment opportunities typically require long-term commitment and need significant amounts of capital
- Funding for water and sanitation traditionally comes from the public sector, meaning private-sector investment opportunities can be more challenging to identify

[9] View the UN Synthesis Report on Water and Sanitation 2018
[10] View the World Bank and UNICEF paper: "Sanitation and Water For All: How Can the Financing Gap Be Filled?"
[11] View the UN's SDG 6 progress and info
[12] View the OECD paper: Benefits of Investing in Water and Sanitation (paywall)

Affordable and Clean Energy



Investing in SDG 7

Investor snapshot

With USD9.391 trillion required across all emerging markets to achieve universal access to electricity by 2030, and an average private-sector participation rate of 45 per cent, the potential opportunity for investors looking to support this goal is USD4.226 trillion. The greatest investment opportunities are found in India (USD701.5 billion), Indonesia (USD147.5 billion) and Bangladesh (USD73.9 billion) where their large and growing populations, together with strong projected GDP per capita growth, mean significant investment is required to maintain access to electricity across the populations by 2030. Of these three markets with the greatest potential private-sector opportunity, India is ranked 63rd in the World Bank ease of doing business index, followed by Indonesia at 73rd.

China, Malaysia, Thailand and Vietnam already have universal access to power so are not included in this section of the study. However, with growing populations and economies, these markets will need to continue investing in affordable and clean energy to maintain access.

Sustainable Development Goal 7

Ensure access to affordable, reliable, sustainable and modern energy for all

Investing in clean, renewable energy sources is vitally important for combating climate change, while ensuring universal access to electricity is fundamental for providing the basic standard of living needed to provide good life opportunities. Our study focuses on measuring the finance needed to provide universal access to electricity. More than one in 10 people worldwide still lack access to safe, reliable power.[13]

Universal access to an affordable electricity supply can help to alleviate poverty and is key to improving education, health, food security, income and living standards.[14] Without it, an individual's chances of participating in sustainable economic development are drastically limited. For example, access to electric lighting helps children to pursue educational opportunities, which gives them a chance to provide a more secure future for themselves and their families. This access to education can increase social mobility, improve people's ability to find employment, and promote increased opportunities for women and girls. This means that success in many other SDGs depends on everyone having access to reliable power.

There has been steady progress towards providing universal electricity access, with access rising from 87 per cent of the global population in 2015 to 89 per cent in 2017. But this means that 840 million people worldwide are still living without access to electricity.[15] Most of these people live in Africa and South Asia, making these markets the best places to make a positive impact through investment.

Universal access to power

The potential private-sector opportunity

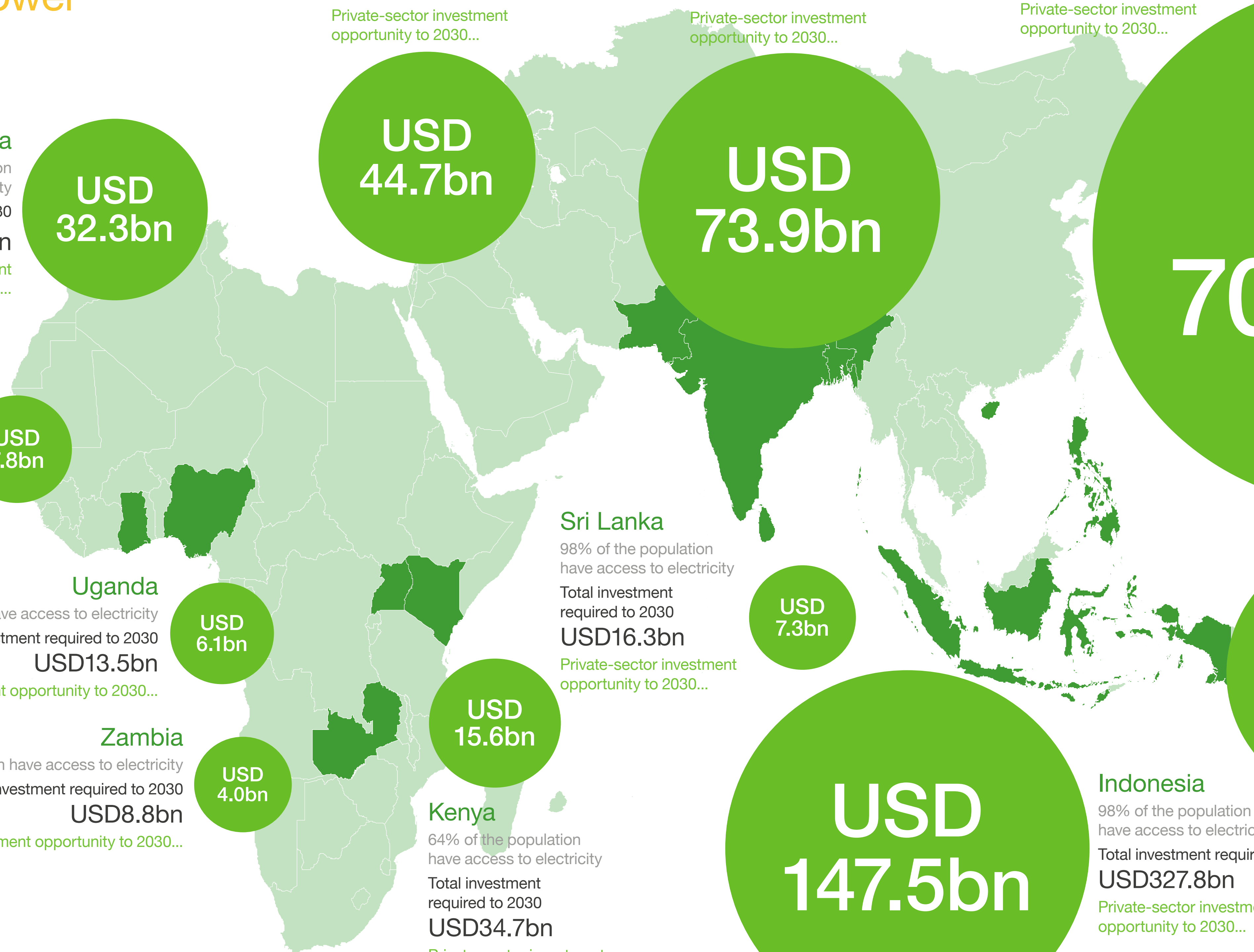
According to our research, the total investment needed in the power sector to achieve and maintain universal access to power across emerging markets by 2030 is estimated to be USD9.391 trillion. Considering average private-sector participation rates of 45 per cent, the potential private-sector investment opportunity in achieving universal access to power in emerging markets by 2030 is:

USD4.226tn

> Private-sector investors are already investing to increase access to energy across the globe while achieving stable returns. We expect the appetite for clean energy investments to increase in the coming years. China, India, Malaysia and Vietnam already have firm plans to increase the share of renewables in their energy mix, and large blue-chip institutional investors are creating funds specifically focused on renewable energy.
>
> With investors increasingly looking for new sustainable investment opportunities, energy infrastructure projects in emerging markets offer stable long-term returns that contribute to the development of vital energy infrastructure that drives wider economic growth.
>
> Sujay Shah, Managing Director, Clean Tech, Standard Chartered

[13] View "Access to Energy" from OurWorldInData.org
[14] View the World Bank story: "Access to Energy is at the Heart of Development"
[15] View the UN's SDG 7 progress and info

Potential investment opportunity for universal access to power



Pakistan
71% of the population have access to electricity

Total investment required to 2030

USD99.3bn

Private-sector investment opportunity to 2030...

USD 44.7bn

Bangladesh
88% of the population have access to electricity

Total investment required to 2030

USD164.2bn

Private-sector investment opportunity to 2030...

USD 73.9bn

India
93% of the population have access to electricity

Total investment required to 2030

USD1,558.8bn

Private-sector investment opportunity to 2030...

USD 701.5bn

Nigeria
54% of the population have access to electricity

Total investment required to 2030

USD71.8bn

Private-sector investment opportunity to 2030...

USD 32.3bn

Ghana
79% of the population have access to electricity

Total investment required to 2030

USD17.4bn

Private-sector investment opportunity to 2030...

USD 7.8bn

Uganda
22% of the population have access to electricity

Total investment required to 2030

USD13.5bn

Private-sector investment opportunity to 2030...

USD 6.1bn

Zambia
40% of the population have access to electricity

Total investment required to 2030

USD8.8bn

Private-sector investment opportunity to 2030...

USD 4.0bn

Kenya
64% of the population have access to electricity

Total investment required to 2030

USD34.7bn

Private-sector investment opportunity to 2030...

USD 15.6bn

Sri Lanka
98% of the population have access to electricity

Total investment required to 2030

USD16.3bn

Private-sector investment opportunity to 2030...

USD 7.3bn

Philippines
93% of the population have access to electricity

Total investment required to 2030

USD136.1bn

Private-sector investment opportunity to 2030...

USD 61.3bn

Indonesia
98% of the population have access to electricity

Total investment required to 2030

USD327.8bn

Private-sector investment opportunity to 2030...

USD 147.5bn

China, Malaysia, Thailand and Vietnam have already achieved universal access to electricity.

Innovative financing powers solar energy
Technaf Solartech Energy, Bangladesh

In 2019, an innovative financing deal paved the way for the first utility-scale solar power plant in Bangladesh. Financed by Standard Chartered and local banks, with a guarantee from GuarantCo, the project will increase the share of renewables in the country's energy mix, and benefit almost 140,000 people. At peak production, the solar power plant at Teknaf in the Cox's Bazar District of Bangladesh will produce up to 80 per cent of the present electricity demand for the entire Teknaf region.

The pivotal role of private-sector investors

The private sector is well established as the leading source of finance for power generation in most economies around the world (accounting for 80-100 per cent of power generation in developed markets). Thus, private investment is critical for reaching SDG 7, and it is vital that as much of this finance as possible is directed into clean energy infrastructure.

In emerging markets, private investors provide around 45 per cent on average of total funding (a range of 40 to 50 per cent). The biggest investment opportunities can be found in renewable-energy projects in emerging markets, where growing demand for new sources of reliable, clean and affordable electricity is greatest. However, due to the limitations of available market data, the scope of our study is limited to measuring access to power in individual markets, as opposed to the proportion of power that comes from clean sources.

In emerging markets, it is common for governments and utility companies to use independent power producers (IPPs) to generate power and sell it back to the government. This benefits the economy by attracting necessary capital and expertise and can also offer attractive rates of return for IPPs and their investors. In addition to the opportunity for good returns, because payment is made under long-term power purchase agreements, this type of investment can also provide a high degree of certainty for investors.

Emerging markets offer the potential for high returns in energy investment, but there are also risks, including payment in currencies that can be more likely to fluctuate, and potentially less-developed infrastructure including transportation networks and transmission grid systems, meaning reliability of service can suffer.[16]

The UN believes that progress towards universal access to electricity is accelerating, indicating that this important target can be achieved with enough dedicated resources. However, much more needs to be done. The share of renewable sources in the total global energy supply only increased from 16.6 per cent in 2010 to 17.5 per cent in 2016.[17] This was despite international finance to support clean energy in emerging markets almost doubling across the same period (increasing from USD9.9 billion to USD18.6 billion). Recently, costs have been falling rapidly, particularly for onshore wind and solar power, often making them more affordable, which should pave the way for increased investment.

Achieving universal access to electricity globally is an important step, but this alone will not be enough to achieve SDG 7. More needs to be done to ensure a shift away from fossil fuel-powered electricity generation, towards clean, renewable sources. Economies that have universal access to power may be producing their power from coal-powered and other non-renewable sources. Investors therefore still have significant opportunities to contribute to SDG 7 in markets with universal access to electricity by increasing investment to clean energy projects.

Why invest in SDG 7: Affordable and Clean Energy?

- Universal access to safe, clean energy has a far-reaching impact. It is vital for alleviating poverty and for combating climate change
- Private-sector investors already have an established role in helping finance projects in this sector
- For institutional investors, this is one of the top SDGs they currently act on, and they also believe it is one of the most likely goals to help them achieve their investment objectives[18]

What are the challenges?

- Infrastructure issues in some economies with the greatest needs mean that mini-grids might be the best solution for connecting those in rural areas, but it can be more challenging to find viable investment opportunities in these projects[19]

[16] View EMPEA paper: "Investment in the Power Sector in Emerging Markets"
[17] View the UN's SDG 7 progress and info
[18] View ShareAction report: "An introductory study of institutional investors' role in supporting the Sustainable Development Goals (2016)"
[19] View WEF article: "1.1 billion people still lack electricity. This could be the solution"

Industry, innovation and infrastructure

Sustainable Development Goal 9:

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

To achieve SDG 9, countries need to put in place the building blocks for sustainable and inclusive economic development. This goal includes a broad range of indicators that track development levels in transport networks, physical infrastructure, research capacity, tech infrastructure and communications connectivity. SDG 9 also plays an integral role in facilitating the other SDGs.

Our study focuses on measuring the investment required for improvements in transport and digital infrastructure. These two important elements of infrastructure are vital for economic and social growth, and essential for commercial innovation.

Transport infrastructure

To determine the investment required to improve a market's transport infrastructure, we measured the cost of a significant improvement to its Logistics Performance Index (LPI) infrastructure score. The LPI infrastructure score, which is one of the metrics within the wider LPI rankings, measures an economy's quality of transport infrastructure (e.g. ports, rail, roads and information technology). Improved transport infrastructure plays an important role in facilitating trade and boosting productivity within a market, which in turn increases income levels and decreases poverty. Transport infrastructure projects can also help create sustainable cities and communities (SDG 11) and facilitate climate action (SDG 13), for example by building bus lanes, developing electric vehicle charging infrastructure or improving railways.[20] Better transport facilities also support education and economic inclusion as they enable people to get to and from schools and universities, or places of work.

Digital access

To track the improvements required in digital access levels, we used a weighted average of internet access rates (80 per cent) and mobile-cellular subscription levels (20 per cent) within each market. The UN estimates that 3.8 billion people (including 80 per cent of the population of the least developed economies) do not have access to the internet and 16 per cent of the global population lack access to mobile broadband networks.[21] Increasing digital access levels in the emerging markets is crucial for achieving sustainable growth, facilitating commercial activity, supporting innovative new businesses and ensuring decent employment and economic growth (SDG 8).

[20] View OECD paper: "Mobilising private investment in sustainable transport infrastructure"
[21] View the UN's SDG 9 facts and figures

Investing in
SDG 9: Transport Infrastructure

Investor snapshot

With USD10.498 trillion required across all emerging markets, and an average private-sector participation rate of 35 per cent, the potential opportunity for investors looking to help achieve significant improvements to transport infrastructure by 2030 is USD3.674 trillion.

The greatest investment opportunities are primarily found in China (USD2.310 trillion) where continuing the existing spending on transport infrastructure of USD600 billion per year should mean the market achieves a Logistics Performance Index infrastructure score of 4.26 by 2030 – higher than the score of many developed economies today. This colossal investment opportunity combined with China's relatively high ease of doing business ranking of 31st means this market could be a first port-of-call for investors looking to invest in transport infrastructure.

However, private-sector investment in countries like Pakistan, with the lowest Logistics Performance Index infrastructure scores in our study, would potentially make the greatest difference.

Significant improvements to transport infrastructure

The potential private-sector opportunity

According to our research, the total investment needed to achieve significant improvements to emerging-market transport infrastructure and help meet SDG 9 is USD10.498 trillion.[22] Considering average private-sector participation rates of 35 per cent, the potential private-sector investment opportunity in transport infrastructure in emerging markets is:

USD3.674tn

The pivotal role of private-sector investors in funding transport infrastructure

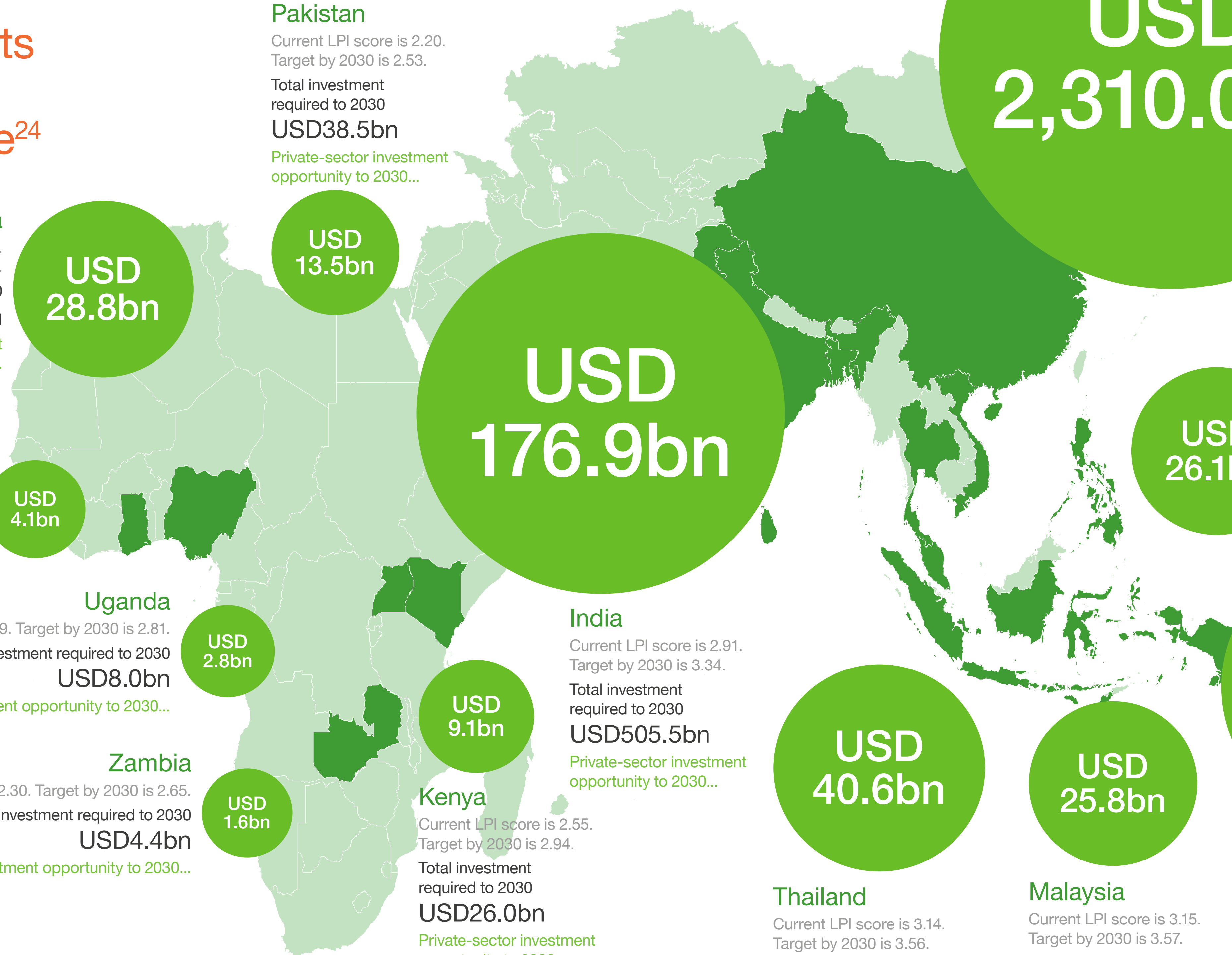
Private finance currently makes up around 35 per cent of the capital invested in transport infrastructure in emerging markets. Increased private funding might help countries shift their focus towards greener transport infrastructure, which not all governments will have the resources to support.

Sub-Saharan Africa has the fastest average annual increase in transport infrastructure investment, at over 11 per cent.[23] Government spending on infrastructure has been squeezed in many markets since the financial crisis, leaving a gap that needs to be filled.

[22] A significant chunk of this is China (USD6.6 trillion), as it seeks to extend top class infrastructure further inland

[23] View Oxford Economics research: "Assessing the global transport infrastructure market: Outlook to 2025 (2015)"

Potential investment opportunity for significant improvements to transport infrastructure[24]



Bangladesh
USD 21.6bn

Current LPI score is 2.39. Target by 2030 is 2.75.

Total investment required to 2030

USD61.6bn

Private-sector investment opportunity to 2030...

China
USD 2,310.0bn

Current LPI score is 3.75.
Target by 2030 is 4.26.

Total investment required to 2030

USD6,600.0bn

Private-sector investment opportunity to 2030...

Pakistan
USD 13.5bn

Current LPI score is 2.20.
Target by 2030 is 2.53.

Total investment required to 2030

USD38.5bn

Private-sector investment opportunity to 2030...

Nigeria
USD 28.8bn

Current LPI score is 2.56.
Target by 2030 is 2.95.

Total investment required to 2030

USD82.3bn

Private-sector investment opportunity to 2030...

Vietnam
USD 20.1bn

Current LPI score is 3.01.
Target by 2030 is 3.46.

Total investment required to 2030

USD57.3bn

Private-sector investment opportunity to 2030...

Philippines
USD 26.1bn

Current LPI score is 2.73. Target by 2030 is 3.14.

Total investment required to 2030

USD74.6bn

Private-sector investment opportunity to 2030...

Ghana
USD 4.1bn

Current LPI score is2.44.
Target by 2030 is 2.81.

Total investment required to 2030

USD11.7bn

Private-sector investment opportunity to 2030...

India
USD 176.9bn

Current LPI score is 2.91.
Target by 2030 is 3.34.

Total investment required to 2030

USD505.5bn

Private-sector investment opportunity to 2030...

Indonesia
USD 75.5bn

Current LPI score is 2.90.
Target by 2030 is 3.33.

Total investment required to 2030

USD215.7bn

Private-sector investment opportunity to 2030...

Uganda
USD 2.8bn

Current LPI score is 2.19. Target by 2030 is 2.81.

Total investment required to 2030

USD8.0bn

Private-sector investment opportunity to 2030...

Zambia
USD 1.6bn

Current LPI score is 2.30. Target by 2030 is 2.65.

Total investment required to 2030

USD4.4bn

Private-sector investment opportunity to 2030...

Kenya
USD 9.1bn

Current LPI score is 2.55.
Target by 2030 is 2.94.

Total investment required to 2030

USD26.0bn

Private-sector investment opportunity to 2030...

Thailand
USD 40.6bn

Current LPI score is 3.14.
Target by 2030 is 3.56.

Total investment required to 2030

USD116.0bn

Private-sector investment opportunity to 2030...

Malaysia
USD 25.8bn

Current LPI score is 3.15.
Target by 2030 is 3.57.

Total investment required to 2030

USD73.7bn

Private-sector investment opportunity to 2030...

Sri Lanka
USD 4.6bn

Current LPI score is 2.49. Target by 2030 is 2.82.

Total investment required to 2030

USD13.1bn

Private-sector investment opportunity to 2030...

[24] See methodology for details of how targets have been set (p.50)

Investing in
SDG 9: Digital Access

Investor snapshot

With USD2.737 trillion required across all emerging markets, and the highest average private-sector participation rates of all sectors examined for this study (60 per cent), the potential opportunity for investors looking to help achieve universal digital access by 2030 is USD1.642 trillion. The greatest investment opportunities are primarily found in China (USD492.8 billion), India (USD226.5 billion), Indonesia (USD53.7 billion) and Nigeria (USD47.4 billion) where large, tech-savvy populations will help drive these markets forward on their path to development.

With the exception of Nigeria, these markets all have an above-average World Bank ease of doing business ranking: China is 31st, India is 63rd and Indonesia is 73rd. With the index including metrics such as a market's strength in protecting minority investors, dealing with construction permits and contracting with the government, good ease of doing business scores suggest a more appealing investment environment. In Malaysia, which boasts a digital access rate of 85 per cent, the highest among the markets we have examined, there remains a USD8.8 billion potential private-sector investment opportunity to achieve universal access. What's more, its ease of doing business score of 81.5 (ranking 12th in the world) is the highest in this study.

Universal digital access

The potential private-sector opportunity

The total investment needed to achieve and maintain universal digital access in emerging markets and help achieve SDG 9 is an estimated USD2.737 trillion. Considering average private-sector participation rates of 60 per cent, the potential private-sector investment opportunity in digital infrastructure is:

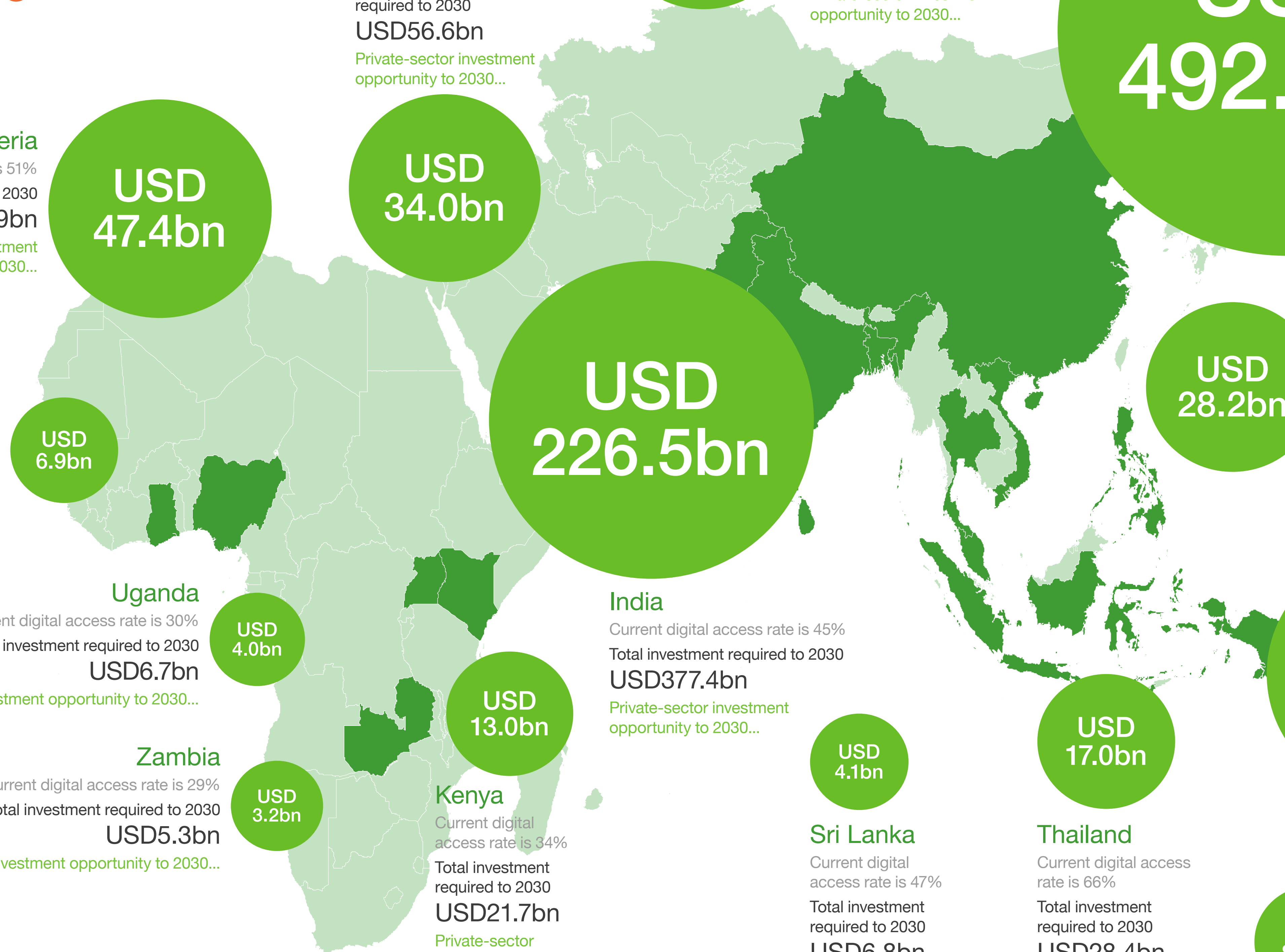
USD1.642tn

The pivotal role of private-sector investors in funding digital infrastructure

In the telecoms sector, which provides the world's digital infrastructure, private investment plays an even greater role than in transport infrastructure, accounting for 60 per cent of funding on average. Investment in digital infrastructure has a track record of strong growth and good returns in emerging markets[25] and the roll-out of 4G and 5G may provide new opportunities. A potential challenge is that when markets reach a greater level of connectivity and technology infrastructure becomes more sophisticated, competition increases, with fewer new customers available. This could make achieving strong investment returns increasingly challenging.

[25] View Delta Partners article: "Investing in emerging markets TMD"

Potential investment opportunity for universal digital access



Pakistan
Current digital access rate is 27%
Total investment required to 2030
USD56.6bn
Private-sector investment opportunity to 2030...
USD 34.0bn

Bangladesh
Current digital access rate is 32%
Total investment required to 2030
USD55.5bn
Private-sector investment opportunity to 2030...
USD 33.3bn

China
Current digital access rate is 63%
Total investment required to 2030
USD821.3bn
Private-sector investment opportunity to 2030...
USD 492.8bn

Nigeria
Current digital access rate is 51%
Total investment required to 2030
USD78.9bn
Private-sector investment opportunity to 2030...
USD 47.4bn

Ghana
Current digital access rate is 51%
Total investment required to 2030
USD11.5bn
Private-sector investment opportunity to 2030...
USD 6.9bn

India
Current digital access rate is 45%
Total investment required to 2030
USD377.4bn
Private-sector investment opportunity to 2030...
USD 226.5bn

Philippines
Current digital access rate is 68%
Total investment required to 2030
USD47.0bn
Private-sector investment opportunity to 2030...
USD 28.2bn

Vietnam
Current digital access rate is 76%
Total investment required to 2030
USD40.7bn
Private-sector investment opportunity to 2030...
USD 24.4bn

Uganda
Current digital access rate is 30%
Total investment required to 2030
USD6.7bn
Private-sector investment opportunity to 2030...
USD 4.0bn

Zambia
Current digital access rate is 29%
Total investment required to 2030
USD5.3bn
Private-sector investment opportunity to 2030...
USD 3.2bn

Kenya
Current digital access rate is 34%
Total investment required to 2030
USD21.7bn
Private-sector investment opportunity to 2030...
USD 13.0bn

Sri Lanka
Current digital access rate is 47%
Total investment required to 2030
USD6.8bn
Private-sector investment opportunity to 2030...
USD 4.1bn

Thailand
Current digital access rate is 66%
Total investment required to 2030
USD28.4bn
Private-sector investment opportunity to 2030...
USD 17.0bn

Indonesia
Current digital access rate is 52%
Total investment required to 2030
USD89.4bn
Private-sector investment opportunity to 2030.....
USD 53.7bn

Malaysia
Current digital access rate is 85%
Total investment required to 2030
USD14.7bn
Private-sector investment opportunity to 2030...
USD 8.8bn

Why invest in SDG 9: Industry, Innovation and Infrastructure?

- Robust digital and physical infrastructure is critical for a market's economic growth and development
- Investments in sustainable transport infrastructure reduce CO^2 emissions and benefit public health through improved air quality
- The private sector is playing a major role in developing digital infrastructure across the globe, but has traditionally been less involved in financing transport infrastructure. With constrained public-sector finances over the coming decade, investors will increasingly be called upon to help finance projects

What are the challenges?

- Some transport investment opportunities develop infrastructure that promotes emissions-intensive forms of transit. To achieve the SDGs as a whole, it is important to focus on funding environmentally sustainable projects, and balancing the need for improved infrastructure with efforts to tackle climate change and pollution

"

Investors can make a real difference by putting their money in emerging markets with significant infrastructure needs. Countries with poor digital and transport connectivity face problems such as a difficult business environment, which hampers GDP growth and acts as a barrier to the elimination of poverty. These markets stand to gain a lot from even modest improvements to transportation and digital networks. What's more, emerging markets often attract higher yields in proportion to the real risks, meaning they can present attractive financing opportunities.

Digital connectivity projects offer strong growth opportunities because of the large populations in low- to middle-income countries. However, there can often be higher market risks. Investors with a lower risk appetite may prefer well-structured transport infrastructure projects, which tend to offer stable, long-term returns with little volatility.

Surya Bagchi, Global Head, Project & Export Finance, Standard Chartered

"

Traditionally, investment in emerging markets has been perceived as risky, but many of these markets are now becoming more investor friendly. One reason is the increasing proliferation of sustainable finance products, which are helping to raise standards, including the availability of reliable and transparent data for investment projects.

International banks with an active presence in emerging markets, such as Standard Chartered, are helping to attract more capital. We have acted as financiers, debt arrangers or advisors, on multiple infrastructure projects, including clean technology and water and sanitation infrastructure in markets such as Zambia and China.

Financial product innovation has played a key role in making emerging-market projects more investable: one example is blending finance, which uses capital from public sources, such as development organisations, to increase private-sector investment in sustainable development.

Standard Chartered has been among the pioneers in blended finance and, in many cases, we have been able to attract investments into Africa and South Asia, in volumes and on terms that would not otherwise have been possible. Some of the projects financed under these structures include the development of clean water and sanitation facilities. While investors may need to adjust their expectations of returns and investment horizon, with better insights on emerging-market risk and increased financial innovation the opportunities for investing towards the SDGs will continue to improve.

Roshel Mahabeer, Banker, Sustainable Finance, Standard Chartered

Opportunity2030 by country Asia

Bangladesh

Opportunities abound

Investor snapshot

Bangladesh needs significant investment to help achieve SDGs 6, 7 and 9, but the largest opportunity is in power. To help ensure that the remaining 12 per cent of the Bangladeshi population has access to electricity by 2030, as well as meeting growing needs for power, will require an estimated investment of USD164.2 billion, with a potential private-sector investment opportunity of USD73.9 billion.

The Bangladeshi economy's strong projected growth rates and large infrastructure gap mean the fundamentals are in place to drive forward development and opportunities for private-sector investors.

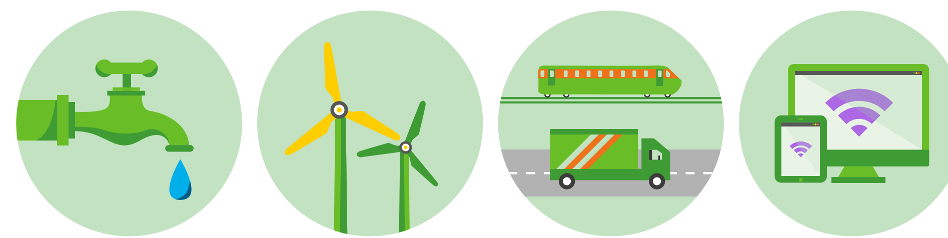
Over the past 20 years, Bangladesh has experienced a rapid rise in GDP and made strong progress in reducing poverty levels. However, the country needs an influx of capital to maintain growth levels and fund the vital infrastructure required for continued development. Working toward achieving the SDGs, along with supportive government policies, could significantly improve the country's prospects over the next decade, encouraging investment and improving the lives of the population.

As part of its seventh Five Year Plan, Bangladesh has made the SDGs a core feature of national economic policy, and the SDGs Implementation and Monitoring Committee was created to facilitate Bangladesh's Action Plan and drive further investment.[26]

[26] View findings from independent development finance assessment: "Strengthening Finance for the 7th Five Year Plan and SDGs in Bangladesh"

According to our research, the combined potential private-sector investment opportunity in Bangladesh to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD132.0bn

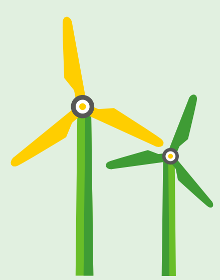


Bangladesh SDG investment grid

Power

Private-sector investment opportunity...

USD 73.9bn



Total investment required to achieve universal access by 2030: **USD164.2bn**

Digital access

Private-sector investment opportunity...

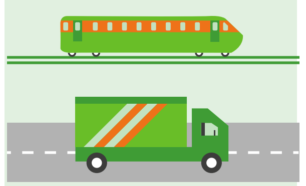
USD 33.3bn

Total investment required to achieve universal access by 2030: **USD55.5bn**

Transport

Private-sector investment opportunity...

USD 21.6bn



Total investment required to achieve significant improvements by 2030: **USD61.6bn**

Clean water & sanitation

Private-sector investment opportunity...

USD3.2bn

Total investment required to achieve universal access by 2030: **USD31.7bn**

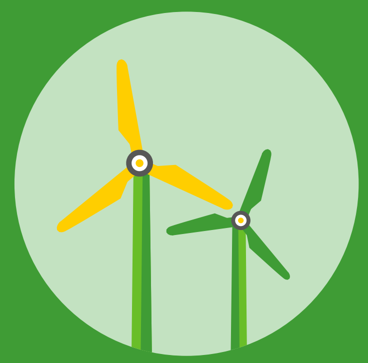
Our study shows that the largest investment opportunity in Bangladesh, across the SDG indicators studied, is in the energy sector. Currently, over 10 per cent of the population (19.8 million people) do not have access to electricity, with investment of around USD164.2 billion needed by 2030 to achieve universal access, as well as meet growing needs for power. The private-sector opportunity is around USD73.9 billion.

Substantial opportunities also lie in infrastructure development. Bangladesh's Logistics Performance Index (LPI) infrastructure score is currently 2.39 (out of 5), placing the economy 100th in the world. To significantly improve this score by 2030 will require an estimated investment of USD61.6 billion, with a private-sector contribution of around USD21.6 billion. Bangladesh also has a digital access rate (comprising mobile phone subscription rates and internet connectivity levels) of just 32 per cent. To achieve universal digital access will require around USD55.5 billion between now and 2030, with a private-sector contribution of around USD33.3 billion.

The potential private-investor opportunity in the water sector is significantly smaller, but as over a quarter (27 per cent) of the population currently lack access to safe drinking water and sanitation facilities, progress towards SDG 6 will make a real impact. It will take around USD31.7 billion between now and 2030 to achieve universal water and sanitation access, with a USD3.2 billion private-sector investment opportunity.

Private-sector participation

Bangladesh's government has established a Public-Private Partnership Authority to increase and manage public-private partnership (PPP) initiatives. The government has also announced a plan to set up 100 Special Economic Zones across the country to encourage increased domestic and foreign investment. Several major infrastructure projects are underway or in the pipeline, many of which are being funded by PPPs.



USD73.9 billion

of private-sector investment is needed to achieve universal access to power for Bangladesh's population by 2030.

China

Rapid progress, vast potential

Investor snapshot

China's key investment opportunities in relation to SDGs 6, 7 and 9 lie in infrastructure development and water and sanitation, as it has already achieved universal access to electricity across its population. The transport sector alone needs an estimated USD2.310 trillion of private-sector investment for China to improve its infrastructure score significantly, representing the biggest opportunity across all sectors and countries in our study.

China is undertaking ambitious infrastructure projects and is increasingly open to private-sector investment. For investors looking to participate in projects that will help realise the SDGs, China offers vast potential. In 2016, China released its National Plan on Implementation of the 2030 Agenda for Sustainable Development, translating each SDG into an action plan for China.[27] According to the progress report published the following year, many projects and plans are now well underway, and several targets have already been met.[28]

[27] View "China's National Plan on Implementation of the 2030 Agenda for Sustainable Development"
[28] View China Daily report: "China's Progress Report on Implementation of the 2030 Agenda for Sustainable Development"

According to our research, the combined potential private-sector investment opportunity in China to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

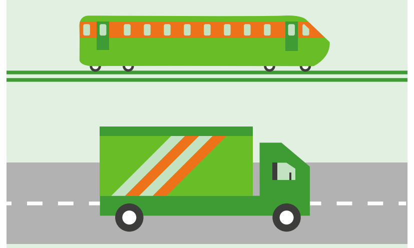
USD2.828tn

China SDG investment grid

Transport

Private-sector investment opportunity...

USD2,310.0bn



Total investment required to achieve significant improvements by 2030: **USD6.600tn**[29]

Digital access

Private-sector investment opportunity...

USD492.8bn

Total investment required to achieve universal access by 2030: **USD821.3bn**

Clean water & sanitation

Private-sector investment opportunity...

USD26.1bn

Total investment required to achieve universal access by 2030: **USD261.3bn**

China has already achieved universal access to power.

China is making significant infrastructure investments, equivalent to over 8 per cent of GDP, the highest proportion of any market in the world.[30] This is reflected in the market's Logistics Performance Index (LPI) infrastructure score of 3.75 (out of 5), which places China 20th in the world.

Due to the size of the market, however, there is still a substantial opportunity for investment. To make further progress towards SDG 9 by significantly improving China's LPI infrastructure score could require an estimated investment of USD6.600 trillion, with a possible USD2.310 trillion of private-sector investment.

The country's digital access rate, comprising mobile phone subscription rates and internet connectivity levels, is also comparatively high at 63 per cent. To achieve universal digital access will require an estimated investment of USD821.3 billion, with a potential private-sector investment opportunity of USD492.8 billion.

China has also been investing in water and sanitation, but around 11 per cent of the population still lack access to clean drinking water and sanitation facilities. Maintaining existing facilities and closing this gap will require an investment of around USD261.3 billion between now and 2030, with around USD26.1 billion coming from private-sector funding.

Private-sector participation

China needs further investment in clean water and sanitation, clean fuels, and technology. While investment as a proportion of GDP is declining as the economy rebalances towards consumption, investment in areas crucial to the SDGs is likely to remain a priority for the government.

Under the current regime, SDG-related infrastructure projects are largely funded by the public sector, with government funds contributing most of the capital for transport, electricity, water and telecoms projects. However, the government has been increasing its efforts to encourage private-sector participation. In late 2018, the Ministry of Finance listed over 8,500 projects for public-private partnerships, totalling almost 13 trillion yuan (USD1.85 trillion),[31] and China's new Foreign Investment Law – passed in early 2019 – will open its domestic market to foreign commerce and new competition.

USD2.310 trillion

private-sector investment opportunity to make further progress towards SDG 9 by significantly improving China's LPI infrastructure score.

[29] This figure has been increased to reflect the current transport infrastructure investment levels in the Chinese market (view OECD data on infrastructure investment)

[30] View Statista figures on annual average infrastructure expenditures as percent of GDP worldwide from 2010 to 2015, by country

[31] View The Public-Private Partnership Law Review - Edition 5: China

India

Electric dreams

Investor snapshot

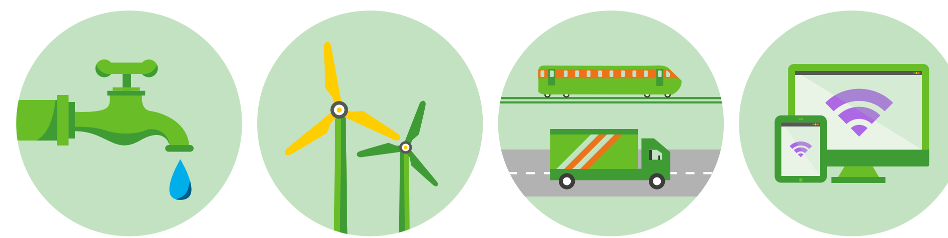
India needs significant investment to help achieve SDGs 6, 7 and 9, and the largest opportunity is in power. To ensure that the remaining 7 per cent of the Indian population gets access to electricity by 2030 – as well as allowing for population growth and growing demand for power – will require an estimated investment of USD1.559 trillion alone, with a potential private-sector investment opportunity of USD701.5 billion. This is the biggest investment in power required across all the markets in our study.

With a large and growing population, high GDP growth relative to global peers (notwithstanding the recent slowdown) and a pressing need for high-quality infrastructure, India offers one of the most significant opportunities for the private sector to invest in projects that will help realise the SDGs. Given the size of the Indian economy, the stakes are high; what happens in India between now and 2030 will matter greatly to global SDG outcomes.

India has played an important role in shaping the SDGs, and the government has expressed its commitment to achieving them. The country is already working towards many of the goals through flagship government programmes like the Swachh Bharat Abhiyan sanitation programme, the Jan Dhan Yojana programme to bank the unbanked, and the Make in India, Digital India, Skill India and Smart Cities schemes.

According to our research, the combined potential private-sector investment opportunity in India to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD1.124tn

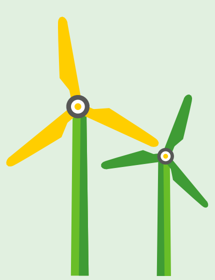


India SDG investment grid

Power

Private-sector investment opportunity...

USD 701.5bn



Total investment required to achieve universal access by 2030: **USD1,558.8bn**

Digital access

Private-sector investment opportunity...

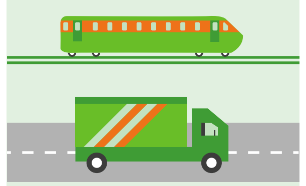
USD 226.5bn

Total investment required to achieve universal access by 2030: **USD377.4bn**

Transport

Private-sector investment opportunity...

USD 176.9bn



Total investment required to achieve significant improvements by 2030: **USD505.5bn**

Clean water & sanitation

Private-sector investment opportunity...

USD19.2bn

Total investment required to achieve universal access by 2030: **USD192.2bn**

Taking into account the 7 per cent of Indians who currently lack access to power, projected population growth and the growing demand for power as the economy develops, achieving universal access to electricity by 2030 will require an estimated investment of USD1.559 trillion, with the potential private-sector opportunity standing at USD701.5 billion.

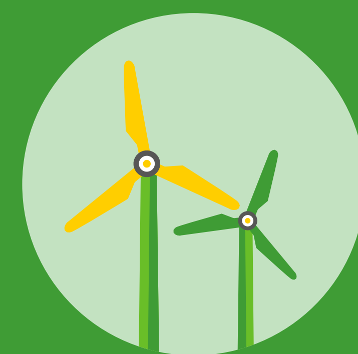
India also has work to do to provide the physical and digital infrastructure needed to realise the potential of its young, highly-skilled population to drive economic growth. India's current Logistics Performance Index (LPI) infrastructure score is 2.91 (out of 5), placing the economy 52nd in the world. Its digital access rate – a combination of mobile phone subscription rates and internet connectivity levels – is 45 per cent. Improving these infrastructure indicators will help India to meet SDG 9, but this will require substantial capital. Between now and 2030, an estimated investment of USD505.5 billion is needed to significantly improve India's infrastructure score, and USD377.4 billion is needed to reach 100 per cent digital access. In total, an estimated private-sector contribution of USD403.4 billion is required.

The opportunity in the water and sanitation sector is smaller but still sizeable. Maintaining existing facilities and providing clean water and sanitation facilities to the 24 per cent of the Indian population who currently lack access by 2030 will require investment of USD192.2 billion, with an estimated USD19.2 billion coming from the private sector.

Private-sector participation

The private sector plays a vital part in India's progress towards meeting the goals by 2030. A government and business partnership conference, held in New Delhi in 2018, focused on developing a vision for industry's contribution to the SDGs. The government has also created the India Investment Grid, an interactive platform that showcases investment opportunities for private finance in India.[32] Significant private investment will be needed in SDG-related infrastructure, even in areas like transportation, which are traditionally funded by the public purse.

[32] View the Government of India's Investment Grid



USD701.5 billion

potential private-sector investment opportunity to achieve universal access to power in India by 2030.

Indonesia

Big population, big opportunities

Investor snapshot

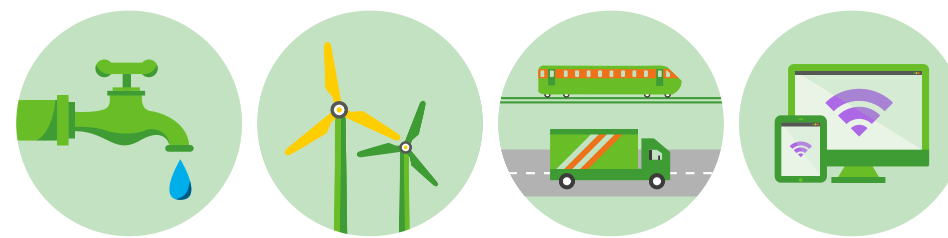
Indonesia needs significant investment across SDGs 6, 7 and 9, but the largest opportunity is in power. Ensuring universal access to electricity by 2030 will require an estimated investment of USD327.8 billion, with a potential private-sector investment opportunity of USD147.5 billion.

Indonesia, the largest economy in Southeast Asia, has the fourth-largest population in the world, and ranks just below China in the G20's growth rankings.[33] Indonesia recovered well from the Asian financial crisis of the late 1990s, with living standards improving and the country's share of world GDP growing significantly in the past two decades.

Supported by the Supreme Audit Board, Indonesia's Ministry for National Development has been front and centre in uniting the SDGs with existing plans for development. Indonesia follows a 20-year development plan first introduced in 2005 and stewarded by President Widodo. This is designed to meet important development priorities for areas such as healthcare, social policy and industry.[34] Furthermore, through the Ministry of Finance and its infrastructure financing arm, the Indonesian government has launched an integrated platform called SDG Indonesia One, which combines public and private funds through blended finance schemes.

According to our research, the combined potential private-sector investment opportunity in Indonesia by 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD280.7bn



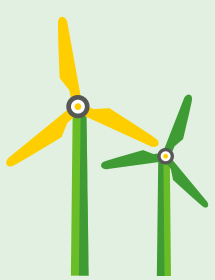
[33] View the Trading Economics GDP annual growth rate figures for the G20
[34] View the World Bank in Indonesia overview

Indonesia SDG investment grid

Power

Private-sector investment opportunity...

USD 147.5bn



Total investment required to achieve universal access by 2030: **USD327.8bn**

Transport

Private-sector investment opportunity...

USD 75.5bn

Total investment required to achieve significant improvements by 2030: **USD215.7bn**

Digital access

Private-sector investment opportunity...

USD 53.7bn

Total investment required to achieve universal access by 2030: **USD89.4bn**

Clean water & sanitation

Private-sector investment opportunity...

USD4.0bn

Total investment required to achieve universal access by 2030: **USD40.5bn**

The greatest private-sector investment opportunity in Indonesia lies in delivering universal access to electricity. Meeting rapidly rising demand for power, as well as raising access to 100 per cent, will take an overall investment of USD327.8 billion, of which the private sector could contribute USD147.5 billion. This comparatively large need for investment – despite 98 per cent of the population currently having access – is due to Indonesia's large and growing population, and strong projected growth in GDP per capita by 2030, among other factors.

Parts of the Indonesian archipelago face a major threat from climate change, making clean energy a long-term strategic priority for the government in Jakarta. It has set out a voluntary emissions pledge and the Bali Road Map for climate action, as well as universal access to electricity, as significant policy goals in coming years.[35]

Improving Indonesia's transport network represents another sizeable opportunity. Raising the quality of the country's transport infrastructure – as measured by a significant improvement in its Logistics Performance Index (LPI) infrastructure score – requires a total investment of USD215.7 billion between now and 2030, with a private-sector contribution of USD75.5 billion. Indonesia's LPI infrastructure score is currently 2.9 (out of 5), placing the country 54th in the world, two places behind India.

Indonesia's digital access rate, comprising mobile phone subscription rates and internet connectivity levels, is currently 52 per cent, and achieving universal access could require around USD89.4 billion, with a private-sector contribution of USD53.7 billion. Meanwhile, achieving universal access to clean water and sanitation offers the lowest private-sector opportunity, but a significant one nonetheless. Most of the investment is likely to come from the public sector, but the private sector may need to contribute around USD4.0 billion of the USD40.5 billion required to bring clean water and sanitation facilities to all Indonesians.

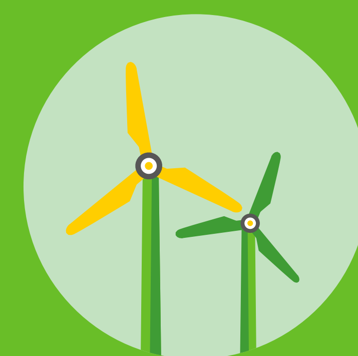
Private-sector participation

Public-private partnerships have been a mainstay of Indonesian policy-making since 1998. The Green Sukuk Initiative, for example, allows investors to purchase clean-energy bonds in a framework that mixes high finance, social enterprise and the development of renewable energy.[36] Raising cash from state and private-sector sources, the Initiative supplements the emergence of the SDG Financing Hub, which was founded to mobilise resources for investment projects across the economy. Funding has also been sourced from international efforts like the Japan International Cooperation Agency (JICA) and the South-South and Triangular Cooperation schemes.[37]

[35] View the UNDP report: "The Bali Road Map: Key Issues Under Negotiation"

[36] View the Ministry of Finance, Republic of Indonesia's report: "Indonesia's Green Bond & Green Sukuk Initiative"

[37] View the Annual Report of Indonesia's South-South Cooperation (SSTC) 2016



USD147.5 billion

private-sector investment required to meet growing electricity needs and give Indonesia universal access to electricity.

Malaysia

Open for growth

Investor snapshot

As a rapidly advancing economy with strong growth prospects, Malaysia is well on its way towards meeting the SDG 6, 7 and 9 indicators. However, a significant improvement of the country's transport infrastructure by 2030 will require an estimated investment of USD73.7 billion, with a large potential private-sector investment opportunity of USD25.8 billion.

Malaysia is one of Asia's most promising economies. Backed by a trade policy open to cross-border commerce and investment, Malaysia's development has seen the virtual elimination of absolute poverty and a wide-scale fulfilment of the Millennium Development Goals – the precursor to the SDGs. Malaysia is now set to become a high-income country by 2024. A delicate mixture of agriculture, industrial innovation and central management is enabling Malaysia to escape the middle-income trap and become an increasingly attractive destination for foreign capital.

The Malaysian Prime Minister re-stated the government's commitment to the SDGs at the recent Malaysia Sustainable Development Goals Summit held in Kuala Lumpur. Inclusive development is to become a core feature of Malaysia's economic policy approach, with the government's Shared Prosperity Vision 2030[38] aimed specifically at bridging the gap between rich and poor and delivering a truly inclusive growth process.

[38] View Malaysia's Shared Prosperity Vision 2030

According to our research, the combined potential private-sector investment opportunity in Malaysia by 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

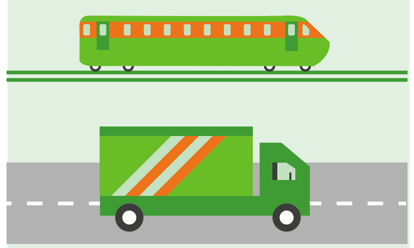
USD35.0bn

Malaysia SDG investment grid

Transport

Private-sector
investment opportunity...

USD25.8bn



Total investment required to achieve significant improvements by 2030: **USD73.7bn**

Digital access

Private-sector
investment opportunity...

USD8.8bn

Total investment required to achieve universal access by 2030: **USD14.7bn**

Clean water & sanitation

Private-sector
investment opportunity...

USD0.4bn

Total investment required to achieve universal access by 2030: **USD3.9bn**

Malaysia has already achieved universal access to power.

The greatest opportunity for private-sector investment lies in updating Malaysia's transport sector. Achieving a significant improvement in its Logistics Performance Index (LPI) Infrastructure Score will require a total investment of USD73.7 billion by 2030, including a private-sector contribution of USD25.8 billion.

Transport reform has been a major policy initiative in Malaysia in recent years. With rural-urban migration on the rise and city centres increasingly congested, the government has sought to relieve the demographic pressure through projects like the Klang Valley Mass Rapid Transit system.

There is also a significant investment opportunity in achieving and maintaining universal digital access, which will require a total cash injection of USD14.7 billion, with potential private-sector investment of USD8.8 billion.

Malaysia's successes in achieving the Millennium Development Goals have largely closed the gap for clean water and sanitation. However, with a further two percentage points to go, and to maintain existing performance, a total investment of USD3.9 billion is still needed, with a private-sector investment opportunity of USD0.4 billion by 2030.

Private-sector participation

In order to meet the SDGs, the Malaysian Economic Affairs Ministry has placed a considerable emphasis on private-sector involvement. Senior figures have pointed to the funding gap in justifying new fiscal incentives designed to induce private contributions. The Malaysia Development Bank, for example, established the Sustainable Development Financing Fund (SDFF)[39] in early 2019 to enhance entrepreneurial solutions to development from the non-state sector. Armed with an original capitalisation of more than USD242 million, the SDFF's holdings were doubled in the recent 2020 Budget and its remit narrowed to focus on sustainable and green-energy initiatives.

[39] View BPMB (Malaysia Development Bank) Sustainable Development Financing Fund page

USD25.8 billion

private-sector contribution is needed to achieve a significant improvement in Malaysia's Logistics Performance Index score.

Pakistan

Need for private investment intensifying

Investor snapshot

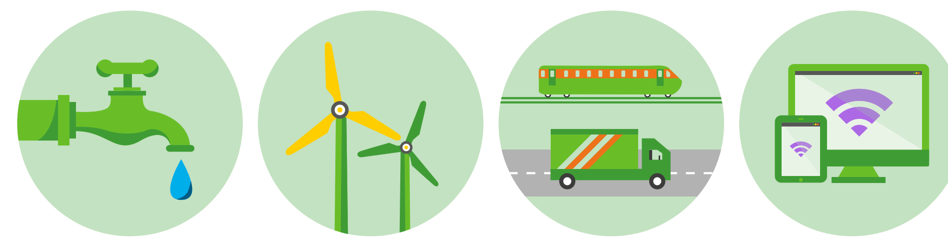
Pakistan needs investment across SDGs 6,7 and 9, with the greatest opportunity in power, followed by digital infrastructure. To meet our SDG 7 indicator and ensure that all of Pakistan's population has access to electricity by 2030 will require an estimated investment of USD99.3 billion, with a potential private-sector investment opportunity of USD44.7 billion. The potential opportunity for private-sector investment in facilitating universal digital access is also significant, standing at USD34.0 billion.

Pakistan's need for private investment is intensifying. With economic growth slowing in recent years, and the population expanding swiftly, it is vital that private sector contributes the finance needed to support a strong level of infrastructure development. In February 2016, Pakistan became the first country to adopt the SDGs as part of its national development agenda through a National Assembly Resolution. The country has a national development strategy, Vision 2025, which is centred around achieving inclusive growth and sustainable development.[40] Pakistan is working towards many of the goals through schemes such as the national poverty alleviation programme Ehsaas (Compassion), and environmental initiatives such as Clean and Green Pakistan and Recharge Pakistan.

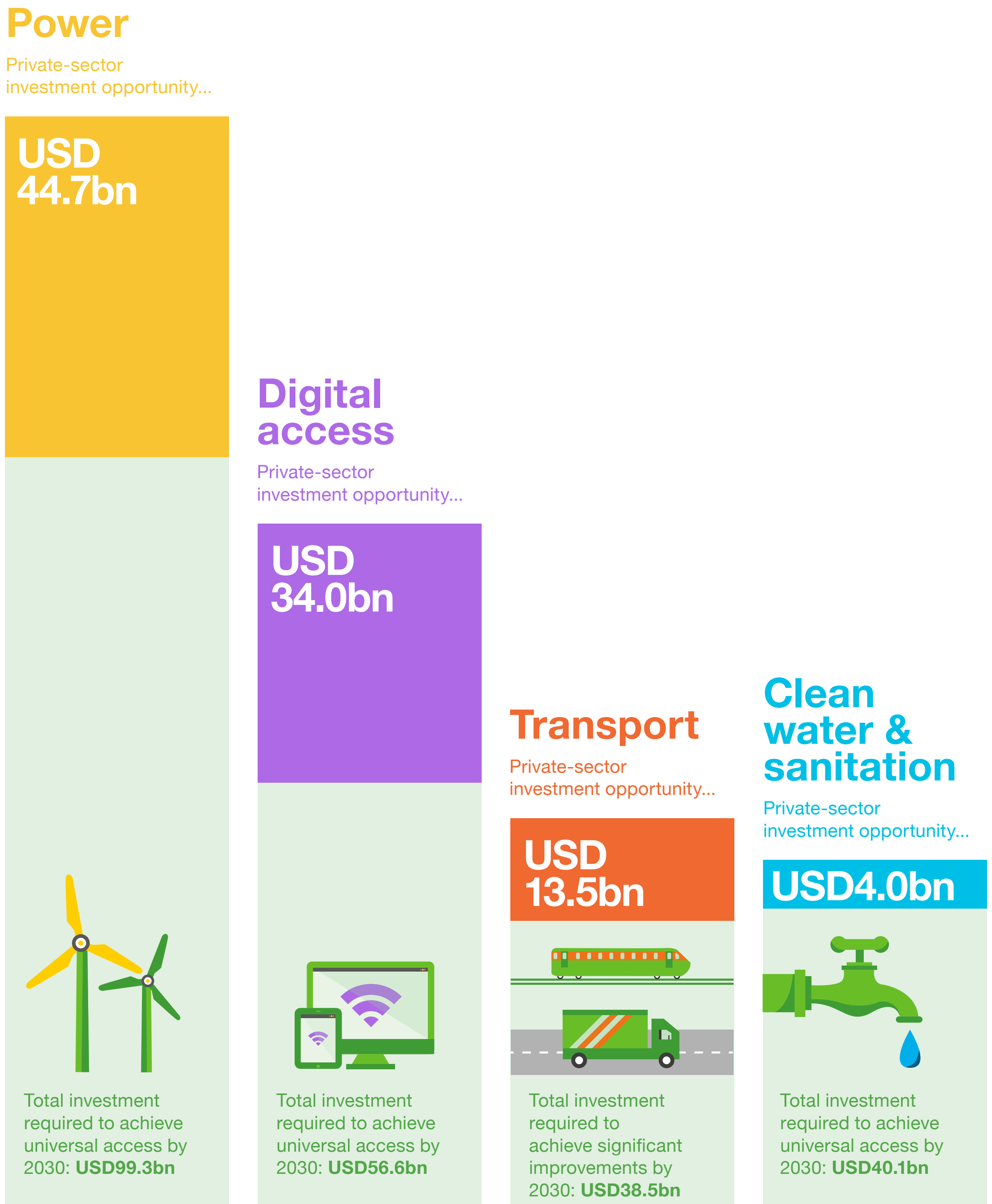
[40] View the Government of Pakistan's report: "Pakistan2025: One Nation - One Vision"

According to our research, the combined potential private-sector investment opportunity in Pakistan to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD96.2bn



Pakistan SDG investment grid



With 29 per cent of Pakistan's population without access to electricity, investment of around USD99.3 billion is needed in the power sector between now and 2030 to meet rising demand and achieve universal access, with a private-sector investment opportunity of around USD44.7 billion. This investment is needed to improve power infrastructure and to address inefficiencies in the energy sector.[41]

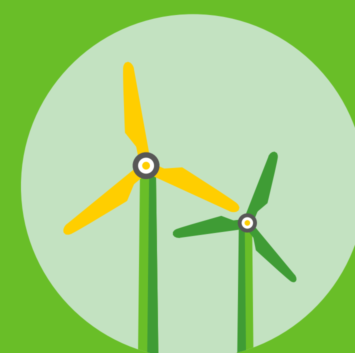
Substantial investment in infrastructure – particularly digital infrastructure – is also needed for Pakistan to make progress towards SDG 9 and to ensure that the country is globally competitive. Currently, it is lagging behind, with a digital access rate – comprising mobile phone subscription rates and internet connectivity levels – of just over a quarter (27 per cent). To reach universal digital access by 2030 will require an estimated investment of USD56.6 billion, with a private-sector contribution of USD34.0 billion.

Pakistan's Logistics Performance Index (LPI) infrastructure score is relatively low at just 2.2 (out of 5), placing it 121st in the world. To improve this score significantly by 2030 will require an estimated USD38.5 billion, with a USD13.5 billion private-sector investment opportunity.

Pakistan also needs investment in the water sector, which will help it achieve SDG 6. Currently, 24 per cent of the population do not have access to clean water and sanitation services. Addressing this gap will require around USD40.1 billion between now and 2030, with around USD4.0 billion of private-sector investment.

Private-sector participation

Pakistan needs high levels of investment to make progress against key sustainable development goals. The government has acknowledged that finding the financing required in a slow-growth environment is challenging and has expressed its commitment to encouraging private-sector participation. In its Voluntary National Review of sustainable development in 2017, the government outlined its strategy: '[exploring] innovative financing, developing a Responsible Business Framework and engaging local universities in devising local solutions for local problems.'[42]



USD44.7 billion

is needed to provide power to the remaining 29% of Pakistan's population still without access.

[41] View World Bank blog: "What's keeping Pakistan in the dark?"
[42] View Pakistan's 2019 Voluntary National Review on Implementation of the 2030 Agenda for Sustainable Development

The Philippines

Build, build, build

Investor snapshot

The Philippines needs investment across SDGs 6, 7 and 9, with the greatest investment required in power. To meet our SDG 7 indicator and ensure universal access to electricity by 2030 will require an estimated total investment of USD136.1 billion, representing a potential private-sector investment opportunity of USD61.3 billion.

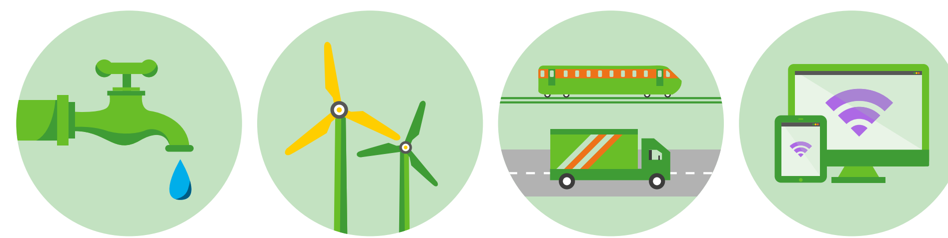
The Philippines is one of Asia's most promising economies. Amid rapid urbanisation and industrialisation, it is set to become an upper-middle income country well before 2030.[43] Exports of semiconductors and electronic materials – produced by a young and increasingly high-skilled workforce – could see the Philippines attain market-leader status over the long term, with cash flows from remittances and outsourcing operations embedding it further in the global economy and making it an increasingly attractive location for private-sector investors.[44]

In its Second Voluntary National Review of the SDGs, the Philippine government was careful to emphasise the significant interdependence of the public and private sectors in delivering the 2030 Vision[45] and a consulting process between the two sectors has been an important component of Philippine development for some time. The SDGs have also been integrated into more active planning, including the existing 2017-2022 Philippine Development Plan (PDP).[46]

[43] View the World Bank in the Philippines overview
[44] View the Migration Data Portal page on remittances
[45] View the Philippines' 2019 Voluntary National Review
[46] View the Philippine Development Plan 2017-2022

According to our research, the combined potential private-sector investment opportunity in the Philippines to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD117.5bn

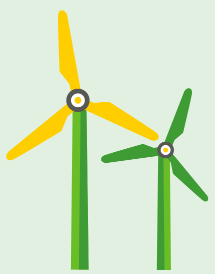


Philippines SDG investment grid

Power

Private-sector investment opportunity...

USD 61.3bn



Total investment required to achieve universal access by 2030: **USD136.1bn**

Digital access

Private-sector investment opportunity...

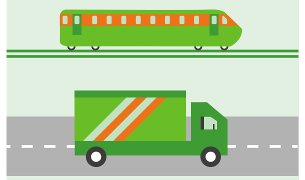
USD 28.2bn

Total investment required to achieve universal access by 2030: **USD47.0bn**

Transport

Private-sector investment opportunity...

USD 26.1bn



Total investment required to achieve significant improvements by 2030: **USD74.6bn**

Clean water & sanitation

Private-sector investment opportunity...

USD1.9bn

Total investment required to achieve universal access by 2030: **USD18.7bn**

The greatest opportunity for private-sector investment in the Philippines lies in achieving universal access to power. To meet growing electricity needs and provide electricity to the remainder of the population (7 per cent) by 2030 will take a total investment of USD136.1 billion, requiring private-sector investment of USD61.3 billion. The Philippine government has made energy a priority in its policymaking, and the Energy Ministry recently announced two initiatives to encourage renewable energy production, in an attempt to reduce the economy's current reliance on coal-fired power stations.[47]

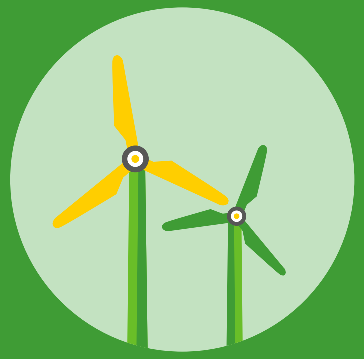
Improving Philippine infrastructure also requires substantial investment. The country's Logistics Performance Index (LPI) Infrastructure score is currently 2.73 (out of 5), placing it 67th in the world. Raising this score significantly will require a total capital injection of USD74.6 billion, requiring a private-sector investment contribution of USD26.1 billion.

The current digital access rate in the Philippines – comprising mobile phone subscriptions and levels of internet access – is 68 per cent. Raising this to universal access by 2030 requires a sizeable investment of USD47.0 billion, of which the private sector could contribute USD28.2 billion.

While achieving universal access to clean water and sanitation may be a predominantly state-driven exercise, there remains scope for private-sector investment: an estimated USD1.9 billion out of a total required investment of USD18.7 billion.

Private-sector participation

The vibrant economy of the Philippines has long been attractive to private-sector infrastructure investors. The current government's flagship 'Build, Build, Build' programme aims to usher in a 'golden age of infrastructure' involving 75 projects worth USD180 billion by 2022.[48] The projects are grouped into five categories, with transport infrastructure a priority. The other sectors are power, water, information and communications technology, and urban development. The government has also recently announced it is embracing infrastructure projects proposed by private companies under a public-private model, adding 26 PPP projects to the programme.[49]



USD61.3 billion

private-sector investment required to meet growing electricity needs and provide power to the rest of the Philippine population.

[47] View Reuters article: "Philippines readies new renewable energy policies to curb coal dependence"

[48] View the World Bank story: "The Philippines Learning Center for Environment and Social Sustainability: Infrastructure Development that Protects People and the Environment"

[49] View the Republic of the Philippines Public-Private Partnership Center article: "More PPPs in revised 'Build, Build, Build' list"

Sri Lanka

Investing in infrastructure

Investor snapshot

Although Sri Lanka has made significant progress towards SDGs 6, 7 and 9, substantial funds are still needed to meet these, and the government is trying to encourage more private-sector engagement. To achieve universal power access, private-sector investment of approximately USD7.3 billion is required between now and 2030, while digital and transport infrastructure development provides a potential private-sector investment opportunity of USD8.7 billion.

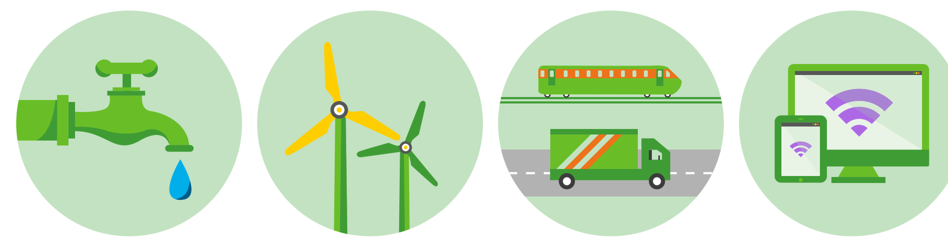
With a large natural resource base, an educated population and a historically strong tourism industry, Sri Lanka has good foundations to make it an appealing prospect for investors. It has been growing steadily over the last decade and undergoing an impressive transformation, transitioning from a largely rural economy to a more urban economy with a strong manufacturing and services industry. Economic growth has resulted in a decline in poverty, and the country's social indicators rank amongst the highest in South Asia.[50]

The government's Vision 2025 aligns with the SDGs, and the Sustainable Development Act was passed in 2017, establishing the legal framework to implement the goals, and founding Sri Lanka's Sustainable Development Council.[51] Most of the population now has access to clean water, sanitation and power, but there is still some way to go to achieve universal access, particularly in remote, hard-to-reach areas. Sri Lanka's infrastructure – both physical and digital – also needs substantial investment and collaboration between the public sector and private sector will be critical.

[50] View Sri Lanka's Voluntary National Review on the Status of Implementing the Sustainable Development Goals
[51] View UN ESCAP blog: "SDG implementation and budgeting: Sri Lanka's efforts and challenges"

According to our research, the combined potential private-sector investment opportunity in Sri Lanka to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD16.2bn

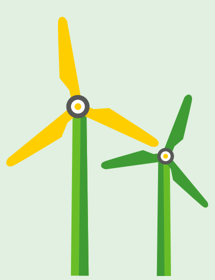


Sri Lanka SDG investment grid

Power

Private-sector investment opportunity...

USD7.3bn

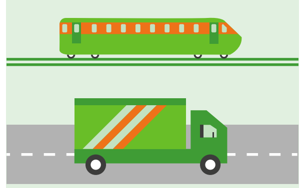


Total investment required to achieve universal access by 2030: **USD16.3bn**

Transport

Private-sector investment opportunity...

USD4.6bn



Total investment required to achieve significant improvements by 2030: **USD13.1bn**

Digital access

Private-sector investment opportunity...

USD4.1bn

Total investment required to achieve universal access by 2030: **USD6.8bn**

Clean water & sanitation

Private-sector investment opportunity...

USD0.2bn

Total investment required to achieve universal access by 2030: **USD2.1bn**

In Sri Lanka, the areas needing the most investment by 2030 are the two SDG 9 indicators. Investment of USD13.1 billion is needed to significantly improve the country's Logistics Performance Index (LPI) infrastructure score, with the private-sector opportunity standing at an estimated USD4.6 billion. Currently, Sri Lanka's LPI infrastructure score is 2.49 (out of 5), placing the economy 85th in the world.

With a current digital access rate of 47 per cent, more investment is required to secure universal access to mobile telephones and the internet. Achieving a digital access rate of 100 per cent requires investment of USD6.8 billion, with the private-sector investment opportunity standing at USD4.1 billion.

Substantial investment is also needed to achieve universal electricity access in Sri Lanka. Although only 2 per cent of the population currently lack access to power, it will take an estimated USD16.3 billion to bridge this gap and meet growing electricity demand between now and 2030, with a private-sector contribution of approximately USD7.3 billion.

Water and sanitation access, meanwhile, is currently at 93 per cent, and it will take around USD2.1 billion between now and 2030 to achieve universal access, with an estimated USD0.2 billion private-sector investment opportunity.

Private-sector participation

Although the Sri Lankan government has been working proactively to meet the SDGs, financing remains a challenge. The country has limited domestic resources due to relatively low levels of tax revenue. The government is looking at increasing public-private collaboration on infrastructure projects to help unlock the funding needed.[52]

Historically, private-sector investment in Sri Lanka has been low compared to other Asian markets, due in part to unfavourable government policies and a prolonged civil war.[53] Recent administrations, however, have made efforts to encourage private-sector investment and promote public-private partnerships (PPPs), turning the private sector into one of the main engines of growth. Infrastructure projects like the Light Rail Transit (LRT) system in Colombo are being financed through PPPs.

[52] View IPS article: "Sri Lanka Faces Major Challenges on UN's 2030 Development Agenda"

[53] View the UN's Investment Policy Review on Sri Lanka

USD4.6 billion

total private-sector investment needed to significantly improve Sri Lanka's Logistics Performance Index infrastructure score.

Thailand

An SDG success story

Investor snapshot

Thailand is close to reaching universal access to clean water and sanitation, and has achieved universal power access, but there are opportunities for additional investment towards the SDGs, particularly in transport infrastructure. To improve infrastructure significantly by 2030, as part of SDG 9, will require an estimated investment of USD116.0 billion, with a potential private-sector investment opportunity of USD40.6 billion.

Thailand performed well against the UN's Millennium Development Goals and has now integrated the SDGs into its policy infrastructure. The government recently announced an additional 20-year National Strategy Framework, which provides long-term direction for its development goals.[54]

Thailand's performance to date against the SDG indicators has been remarkably strong, but there are still opportunities for the private sector to become more involved, particularly as the country will continue to invest heavily in infrastructure.

[54] View Thailand's 2017 Voluntary National Review on the Implementation of the 2030 Agenda for Sustainable Development

According to our research, the combined potential private-sector investment opportunity in Thailand to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

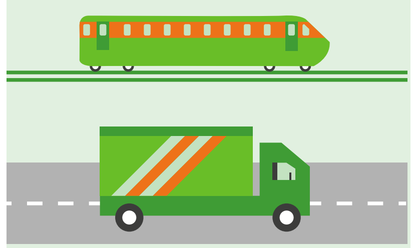
USD58.3bn

Thailand SDG investment grid

Transport

Private-sector
investment opportunity...

USD40.6bn



Total investment required to achieve significant improvements by 2030: **USD116.0bn**

Digital access

Private-sector
investment opportunity...

USD17.0bn

Total investment required to achieve universal access by 2030: **USD28.4bn**

Clean water & sanitation

Private-sector
investment opportunity...

USD0.7bn

Total investment required to achieve universal access by 2030: **USD6.9bn**

Thailand has already achieved universal access to power.

Like many rapidly-developing Asian countries, Thailand has a gap to fill when it comes to creating a transport network that satisfies demand without breaking budgets or environmental targets. Therefore, among the SDG indicators in our study, the greatest opportunity for private-sector investment in Thailand can be found in the country's transport sector. Thailand's Logistics Performance Index (LPI) infrastructure score is currently 3.14 (out of 5), placing it 41st in the world. Achieving a significant improvement in this score by 2030 will require a total investment of USD116.0 billion, with the private-sector investment opportunity a sizeable USD40.6 billion.

The second element of our SDG 9 analysis is digital access, comprising mobile phone subscription rates and internet connectivity levels. To reach and maintain universal digital access, Thailand requires a total investment of USD28.4 billion between now and 2030, with a USD17.0 billion private-sector investment opportunity.

The opportunity for private-sector investors in Thailand's water and sanitation sector is less notable. Thailand has already made significant progress towards SDG 6, with only 1 per cent of the population currently lacking access to clean water and sanitation. Achieving universal access will require a total investment of around USD6.9 billion, with a private-sector investment opportunity of around USD0.7 billion.

Private-sector participation

Thailand is an SDG success story so far, and the private sector has a central role to play in the country's continued work towards the goals. The government has expressed its commitment to encouraging private-sector participation, and 40 of Thailand's leading corporations recently founded a formal network with the UN to entrench the SDGs in their commercial approaches.[55]

USD40.6 billion

private-sector investment required to significantly improve Thailand's transport infrastructure.

[55] View the Royal Thai Embassy (Washington D.C.) press release: "Forty Thai firms sign up for Sustainable Development Goals"

Vietnam

A green light for growth

Investor snapshot

Vietnam requires investment across SDGs 6 and 9, with transport infrastructure representing the greatest opportunity. To improve the country's Logistics Performance Index (LPI) infrastructure score significantly by 2030 will require an estimated total investment of USD57.3 billion, representing a potential private-sector investment opportunity of USD20.1 billion.

Once one of the poorest nations in the world, a series of ongoing market reforms has triggered Vietnam's rapid ascent to market-leading status in South-East Asia. Rates of trade, foreign investment, overseas remittances and living standards have all risen substantially in recent years.[56] However, fulfilling the SDGs – in particular addressing climate change and ensuring more inclusive development – will require the private sector to play a significant role.

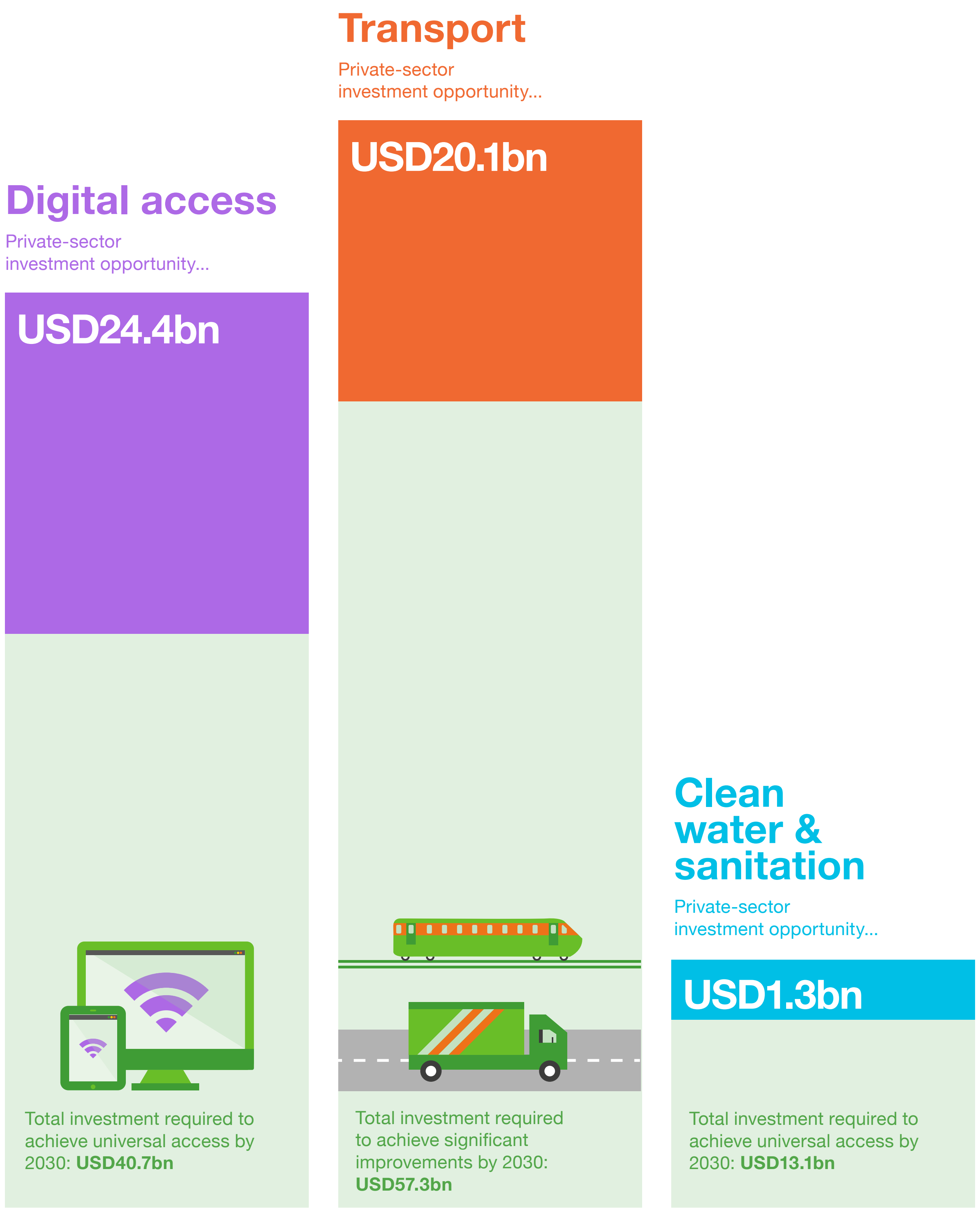
In its regular SDG Index, the UN has placed Vietnam just behind China in its progress towards the 2030 Vision.[57] The Vietnamese government has been working actively with the UN to align its development plans with the SDGs, with the two converging on a joint One Strategic Plan (OSP) for future growth.[58] Informed by the basic principles of the Socio-Economic Development Plan, the OSP is set to focus on four key policy areas over the next 10 years, with 'Investing in People' and 'Ensuring Climate Resilience' top of the agenda.

[56] View the World Bank in Vietnam overview
[57] View the Sustainable Development Report 2019
[58] View Vietnam's One Strategic Plan 2017-2021

According to our research, the combined potential private-sector investment opportunity in Vietnam to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD45.8bn

Vietnam SDG investment grid



Vietnam has already achieved universal access to power.

For private-sector investors looking to help Vietnam achieve the SDGs, there is a substantial opportunity in transport infrastructure. Vietnam's current LPI infrastructure score is 3.01 (out of 5), placing it 47th in the world. Upgraded infrastructure is needed to support Vietnam's rapidly growing, urbanising population. The government has made efforts to bridge the gap in an eco-friendly manner, having recently endorsed climate-smart transport technology,[59] including a shift away from traditional combustion engine cars towards electric substitutes, rail, freight and waterborne alternatives. To improve Vietnam's LPI infrastructure score significantly between now and 2030 will require an estimated investment of USD57.3 billion, representing a potential private-sector investment opportunity of USD20.1 billion.

Vietnam also needs investment in digital infrastructure to help it work towards SDG 9. Vietnam's digital access rate – comprising mobile phone subscription rates and internet connectivity levels – is currently 76 per cent. Achieving universal access will require a total investment of USD40.7 billion, representing a potential USD24.4 billion private-sector investment opportunity.

The water sector offers a more modest opportunity. Around 11 per cent of the Vietnamese population currently lack access to clean drinking water and sanitation facilities. It will take an investment of USD13.1 billion between now and 2030 to achieve universal water and sanitation access, with a potential private-sector investment opportunity of around USD1.3 billion.

Private-sector participation

Vietnam's Voluntary National Review set out the clear need for a holistic approach to the SDGs.[60] In 2018 Vietnam ranked in the top five countries globally for private investment in infrastructure.[61] The Department for International Development has supported the government in its financing objectives through leveraging private-sector investment.[62] The Vietnam Business Council for Sustainable Development[63] was founded to foster private-sector interest in the SDGs, with climate action earmarked as a particular area of focus: currently, just 2.1 per cent of Vietnamese energy comes from renewable sources.[64]

[59] View report: "Addressing Climate Change in Transport (Vol. 2): Pathway to Resilient Transport"
[60] View Vietnam's 2018 Voluntary National Review on the Implementation of the Sustainable Development Goals
[61] View The Public-Private Partnership Law Review - Edition 5: Vietnam
[62] View Operational Plan 2011-2016 DFID Vietnam
[63] View the website of the Vietnam Business Council for Sustainable Development
[64] View the British Business Group Vietnam's Renewable Energy page

USD20.1 billion

total private-sector investment required to significantly improve Vietnam's transport infrastructure.

Opportunity2030 by country Africa

Ghana

Growing fast and thinking big

Investor snapshot

Ghana is developing quickly, and demonstrating commitment to working with the private sector to bridge the country’s SDG investment gaps. Of the SDG 6, 7 and 9 indicators, the largest opportunity is in power, representing an estimated private-sector investment opportunity of USD7.8 billion between now and 2030. Further, digital and transport infrastructure development is likely to require a combined private-sector investment of USD11.0 billion between now and 2030.

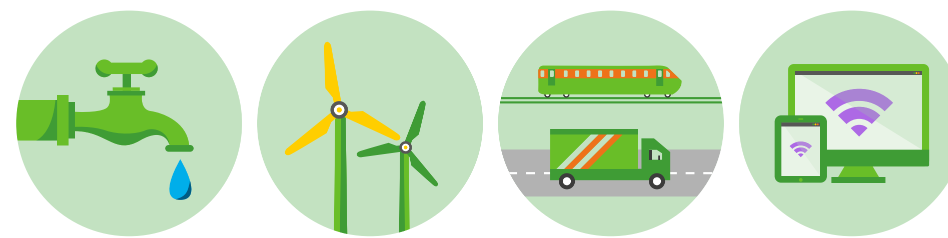
Ghana is an attractive prospect for investors, with a wealth of natural resources, an economy experiencing strong growth and a government focused on development. The country is also a vocal supporter of the SDGs: Ghana’s President Nana Addo Dankwa Akufo-Addo is Co-Chair of the SDG Advocates.[65]

Work towards achieving the SDGs will help the West African nation to overcome remaining challenges, including inequality and inadequate infrastructure, particularly in rural areas. Recently, the government has been successful in encouraging private-sector participation in several ambitious highway and railway developments as well as sustainable energy projects.

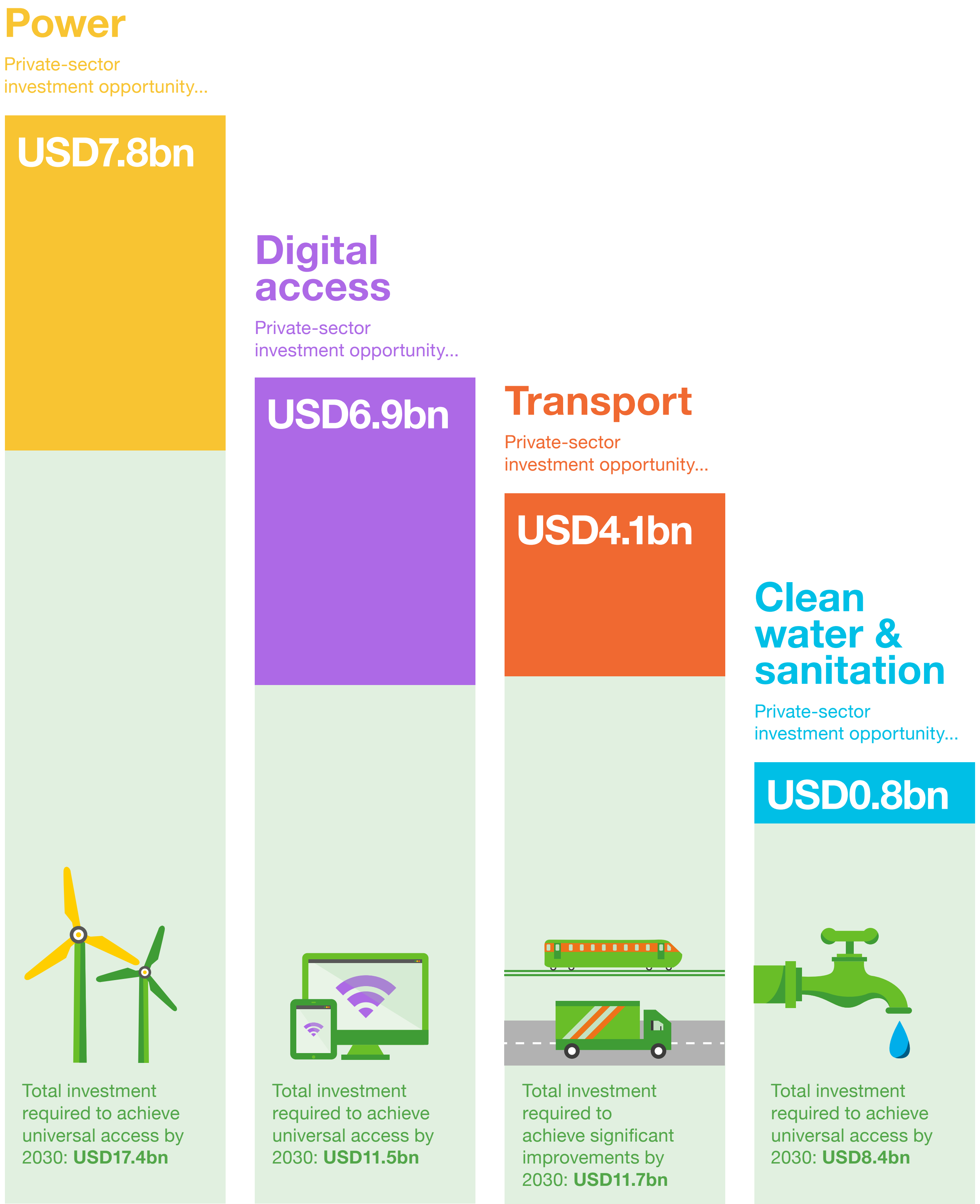
[65] View the UN’s SDG Advocates page

According to our research, the combined potential private-sector investment opportunity in Ghana to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD19.6bn



Ghana SDG investment grid



Currently, 21 per cent of Ghana's population does not have electricity access. Investment of around USD17.4 billion is needed between now and 2030 to meet growing needs and achieve universal access, with a private-sector investment opportunity of around USD7.8 billion.

The Ghanian government is seeking private-sector participation in power generation projects, with a focus on renewable energy generation.

Ghana's Logistics Performance Index (LPI) infrastructure score is 2.44 (out of 5), placing the economy 92nd in the world. Significantly improving Ghana's LPI infrastructure score will require an estimated USD11.7 billion by 2030, with a private-sector investment opportunity of USD4.1 billion. Achieving universal digital access by 2030 – measured by mobile phone subscription rates and internet connectivity levels – will require approximately USD11.5 billion, with a USD6.9 billion potential private-sector investment opportunity.

While the potential opportunity for private investors in the water sector is more modest, the benefits to the Ghanaian population are particularly significant: currently, half of the population lacks access to adequate drinking water and sanitation facilities. It will take around USD8.4 billion between now and 2030 to achieve universal water and sanitation access, with a USD0.8 billion private-sector investment opportunity.

Private-sector participation

In Ghana's 2019 report on implementation of the Sustainable Development Agenda, the Ghanaian president acknowledged that the cost of financing the SDGs could only be met with 'a significant boost in private capital and with businesses fully aligning behind the implementation process'.[66] To this end, the government has established a CEO advisory group on the SDGs, comprised of business leaders who are championing private-sector engagement, and created an SDG delivery fund that pulls together private-sector CSR resources.

With a strong focus on renewable energy, under Ghana's Renewable Energy Master Plan, the government aims to vastly increase installed renewable capacity, with 80 per cent of financing expected to come from the private sector.[67] The government is creating a green fund to increase investment in the renewable energy sector, concentrating particularly on solar power.

In the transport sector, a USD2 billion agreement with China's Sinohydro corporation was approved in 2018 to build highway infrastructure,[68] and the government has also pre-qualified four private companies for a multi-million USD concession to add additional lanes to the Accra-Tema motorway to ease congestion.[69]

USD7.8 billion

total private-sector investment required for Ghana to achieve and maintain universal access to power by 2030.

[66] View Ghana's 2019 Voluntary National Review Report on the Implementation of the 2030 Agenda for Sustainable Development
[67] View Ghana's Renewable Energy Master Plan
[68] View South China Morning Post article: "Ghana goes ahead with US$2 billion Chinese bauxite barter deal that has conservationists up in arms"
[69] View InfraPPP article: "Four teams prequalified for the Accra-Tema Motorway PPP"

Kenya
High-powered projects

Investor snapshot

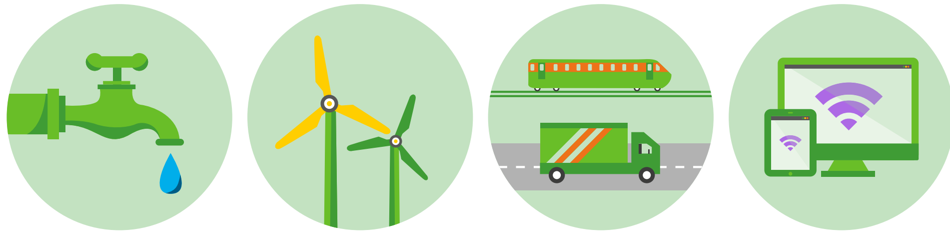
Kenya needs significant investment to help achieve SDGs 6, 7 and 9, and private capital can play a vital role. There are opportunities for the private sector in all of the SDGs, with the power sector representing the greatest opportunity: an estimated USD15.6 billion of private-sector investment in power is needed between now and 2030.

Kenya is one of the fastest-growing economies in Sub-Saharan Africa, and the government has been investing in infrastructure as part of its 'Vision 2030' to facilitate the country's economic growth.[70] Development that relates to the SDGs – such as improved infrastructure and greater access to sanitation and power – will be critical to achieving Kenya's aim of becoming an industrialising, middle-income country by the end of the decade. The government has been exploring ways of increasing private-sector participation, and several major infrastructure projects are currently underway, backed by significant foreign investment.

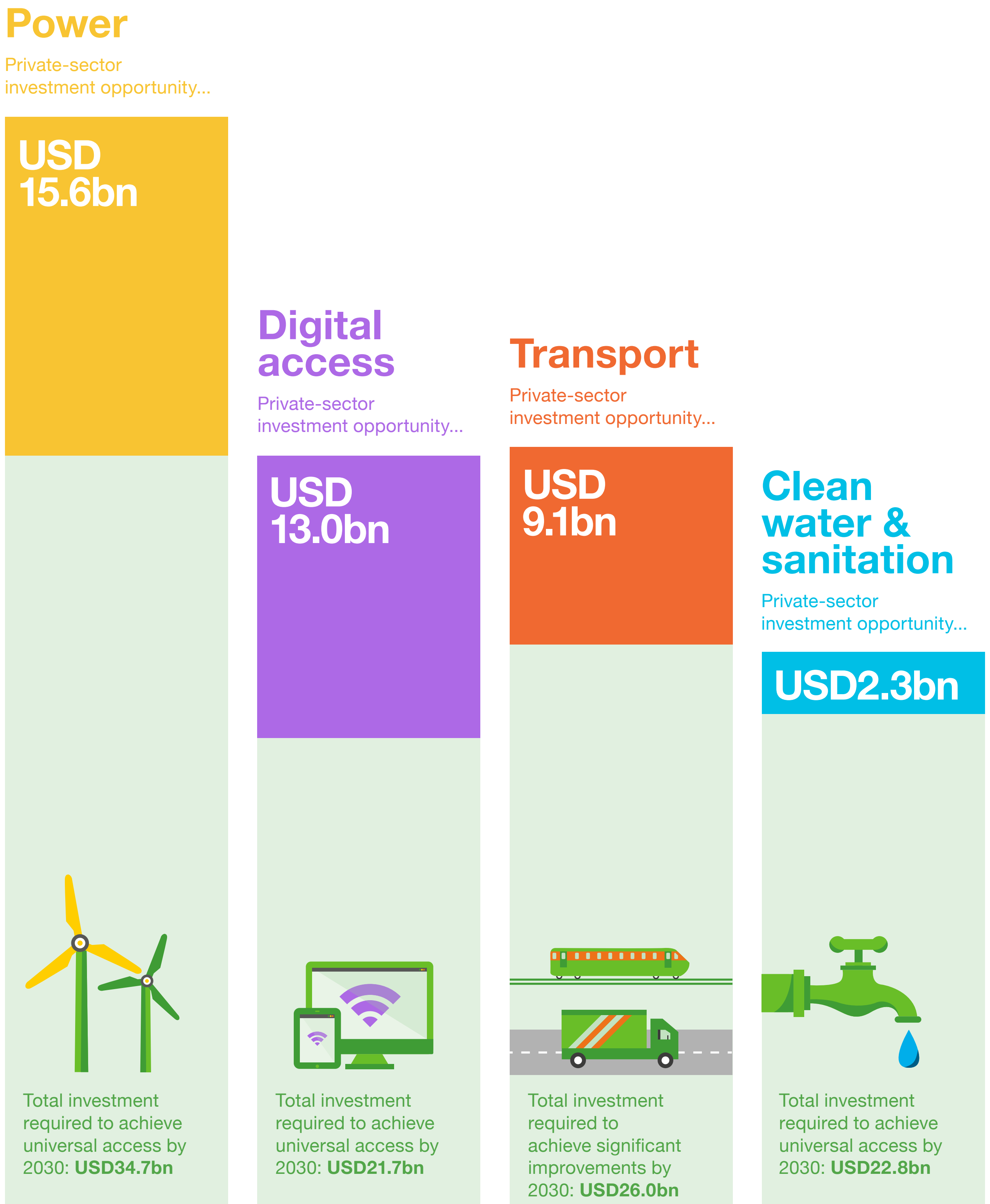
[70] View UNESCO's page on the Kenya Vision 2030

According to our research, the combined potential private-sector investment opportunity in Kenya to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD40.0bn



Kenya SDG investment grid



Currently, 56 per cent of Kenyans lack access to clean water and sanitation, while 36 per cent have no access to electricity, and the country's digital access rate is just 34 per cent. In dollar terms, the largest private-sector opportunity is in ensuring universal access to power by 2030, which will require USD34.7 billion, with a private-sector investment opportunity of USD15.6 billion. However, Kenya is ahead of many other markets in terms of clean energy. A world leader in geothermal power generation, 70 per cent of Kenya's installed electricity capacity came from renewable sources in 2018, more than three times the global average.[71]

In terms of supporting industry, innovation and infrastructure, to achieve universal digital access by 2030 will require USD21.7 billion with an opportunity for private-sector investors of USD13.0 billion. To improve Kenya's LPI infrastructure score significantly will cost USD26.0 billion, with the potential for the private sector to provide USD9.1 billion of investment finance.

Investments in digital infrastructure will help increase adoption of mobile banking, which is becoming an increasingly powerful lever for boosting economic growth in emerging markets.[72] Improving transport infrastructure is also critical to supporting trade and economic growth; Kenya's Logistics Performance Index (LPI) infrastructure score is currently 2.55 (out of 5), placing the economy 79th in the world.

Overall, to provide access to clean water and sanitation to the entire Kenyan population by 2030 will require an estimated investment of USD22.8 billion, with a potential private-sector investment opportunity of USD2.3 billion. Although this is the opportunity with the smallest dollar value, it would have a significant social impact, enabling a further 66 per cent of the population to access clean water.

Private-sector participation

Over the past two decades, Kenya has transformed its energy provision. In the 1990s, the Kenyan power sector struggled with a severe capacity shortfall and low tariffs, and was heavily dependent on government funding. With support from the World Bank, the government has been leveraging commercial finance to develop its energy infrastructure, and Kenya is now implementing one of the most successful electrification programmes in Sub-Saharan Africa, with at least USD3 billion in private capital mobilised between 1997 and 2018.[73] Private-sector interest in Kenya's transport infrastructure has also been growing in recent years. In 2017, US company Bechtel was awarded the rights to construct and operate the Mombasa to Nairobi expressway, one of Kenya's largest transport projects.[74] The second phase of another railway project that will eventually link to Uganda, funded largely by China's Exim bank, was officially opened in October 2019.[75]

In terms of water and sanitation improvements, it is estimated that about 200,000 new water connections and 350,000 new sewer connections will be needed annually in urban areas to achieve and maintain universal water access by 2030.

USD2.3 billion

private-sector investment required to provide universal access to clean water and sanitation in Kenya by 2030.

[71] View WEF article: "Kenya is aiming to be powered entirely by green energy by 2020"
[72] View McKinsey & Company article: "Capturing the promise of mobile banking in emerging markets"
[73] View the World Bank's Results Brief: "Maximizing Financing for Development in Action: The Kenya Energy Sector Experience
[74] View Oxford Business Group article: "New investment to strengthen Kenyan transport infrastructure"
[75] View VOA News article: "Kenya Opens Second Phase of Massive Railway Project"

Nigeria

Getting connected

Investor snapshot

Nigeria requires considerable investment to help meet SDGs 6, 7 and 9. The greatest opportunity is found within digital infrastructure, with 49 per of Nigerians currently without digital access. To achieve universal digital access by 2030 will require an estimated investment of USD78.9 billion, with a potential private-sector investment opportunity of USD47.4 billion.

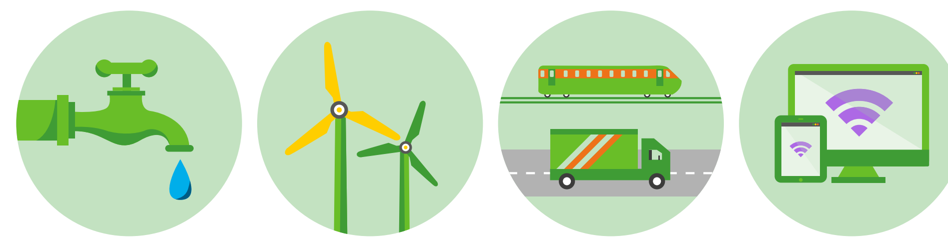
Powered by rich natural endowments and a sizable population, Nigeria is Africa's largest economy. Its trade with the rest of Africa, and young tech-savvy workforce, also makes Nigeria an increasingly attractive destination for foreign investment. There is considerable potential for the private sector to play a role in funding the vital infrastructure required to help meet the SDGs.

The Nigerian government has made the 2030 Roadmap a key performance indicator for the nation's development, including creating a dedicated government position of Senior Special Assistant for the SDGs. Its Economic Recovery and Growth Plan from 2017-2020 is aligned with the SDGs, with development and macroeconomic stability located in strong infrastructure and a flexible real economy.[76] This has been supported at the local level too, with State Development Plans in Benue, Taraba, the Delta and others similarly aligned to the SDGs.[77] Nigeria's Voluntary National Review emphasised that meeting the 2030 goals will require the pursuit of alternative finance sources.[78] Conventional sources of finance such as development assistance and public sector funds are unlikely to deliver the results needed to meet the goals without the help of private-sector investment.

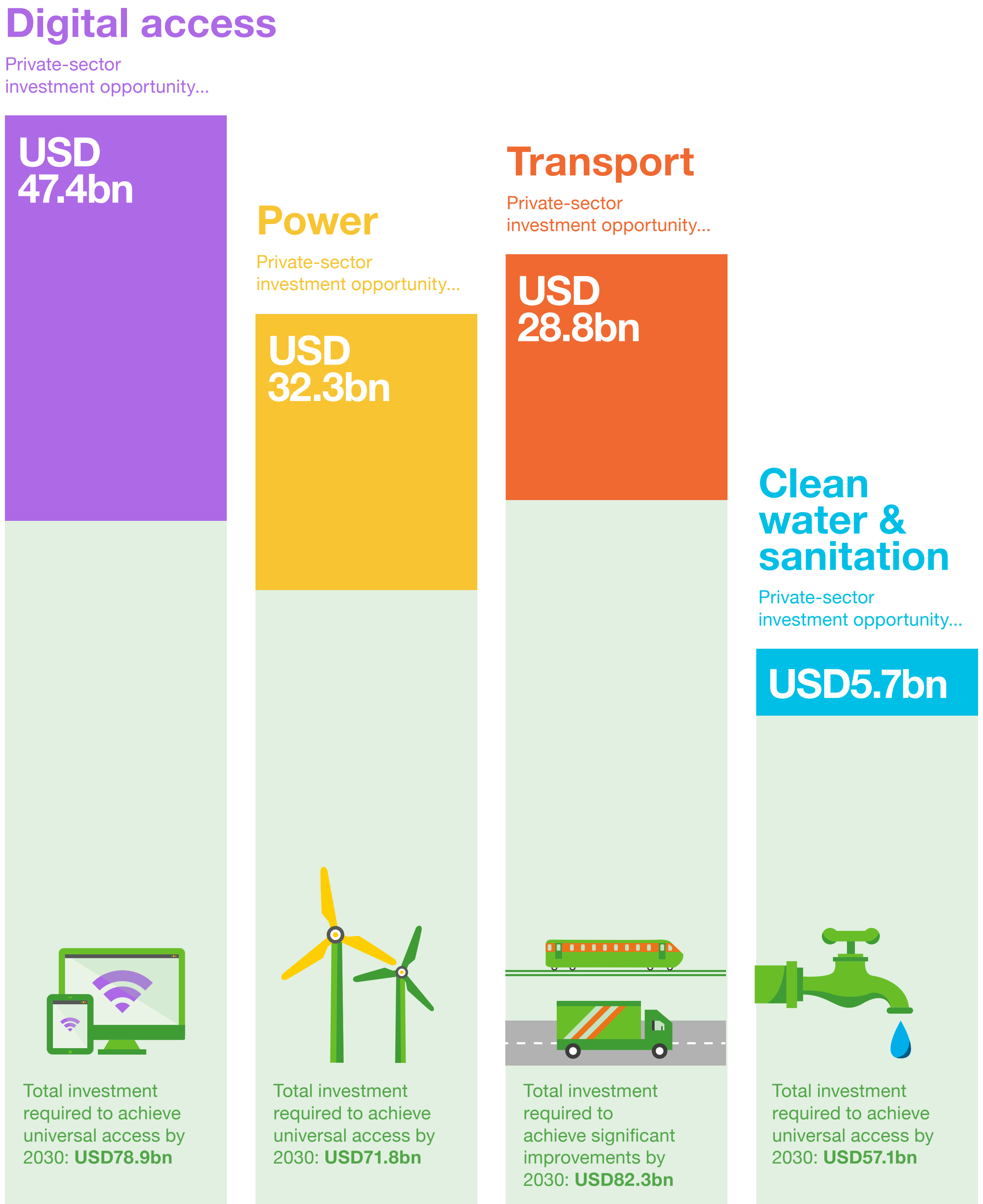
[76] View Nigeria's Economic Recovery and Growth Plan 2017-2020
[77] View the Nigeria profile on the UN's SDG knowledge platform
[78] View Nigeria's 2017 National Voluntary Review of Implementation of the SDGs

According to our research, the combined potential private-sector investment opportunity in Nigeria to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD114.2bn



Nigeria SDG investment grid



Digital inclusion presents the largest private-sector investment opportunity in Nigeria.[79] Achieving and maintaining universal digital access by 2030 will require a total financial injection of USD78.9 billion, representing a private-sector investment opportunity of USD47.4 billion.

Nigeria's Logistics Performance Index (LPI) infrastructure score is 2.56 (out of 5), giving it a ranking of 78th globally. Securing a significant improvement in the country's infrastructure will take an estimated total investment of USD82.3 billion between now and 2030, requiring a private-sector investment contribution of USD28.8 billion.

Meanwhile, SDGs 6 and 7 also present significant investment opportunities. Nearly half (45 per cent) of Nigerians lack access to clean water and sanitation services. Achieving and maintaining universal access by 2030 will require investment of USD57.1 billion, creating a private-sector investment opportunity of USD5.7 billion. With 46 per cent of the population without electricity, the total finance required to bring power to all Nigerians will require investment of USD71.8 billion, representing a private-sector investment opportunity of USD32.3 billion.

Private-sector participation

The private sector has long played an important role in the development of Nigeria's infrastructure. For investors looking for fresh opportunities, the Global Infrastructure Hub serves as an interactive digital platform to showcase projects across multiple infrastructure domains.[80] Nigeria recently developed a Private Sector Engagement Strategy, which in turn advised the foundation of the Private Sector Advisory Group on SDGs, a network for consolidating sustainable investment in Nigeria.[81]

USD47.4 billion

private-sector investment needed for Nigeria to achieve and maintain universal digital access.

[79] View McKinsey & Company article: "Capturing the promise of mobile banking in emerging markets"
[80] View the Global Infrastructure Hub's page on Nigeria
[81] View the Private Sector Advisory Group Nigeria's website

Uganda

Transforming the economy

Investor snapshot

Uganda needs significant investment across SDGs 6, 7 and 9, with the country's power sector representing the greatest opportunity. To achieve and maintain universal access to electricity by 2030 will require an estimated investment of USD13.5 billion, with a potential private-sector investment opportunity of USD6.1 billion.

Uganda's development trajectory is set to create an increasingly compelling investment case over the medium-to long-term. The country has one of the fastest-growing populations in Africa and good levels of economic growth (although this has slowed in recent years, partly due to unrest in neighbouring South Sudan). Between 2000 and 2015, Uganda made impressive progress towards the UN's Millennium Development Goals, reducing poverty by two-thirds, combating malaria, and increasing the availability of safe drinking water in rural areas.[82]

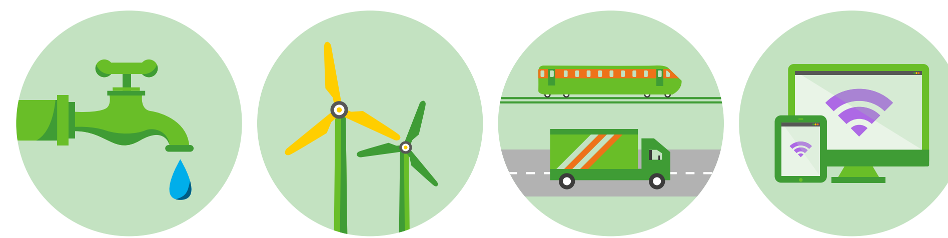
Such progress stems from concerted government action. After the launch of Uganda's National Coordination Framework in 2016, the Prime Minister's National SDG Roadmap united key stakeholders firmly behind the 2030 Agenda including executive centres, government agencies, civil society groups and local administrators.[83]

[82] View the UNDP's Final Millennium Development Goals Report for Uganda 2015

[83] View Uganda's Office of the Prime Minister's page on the SDGs

According to our research, the combined potential private-sector investment opportunity in Uganda to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD13.7bn

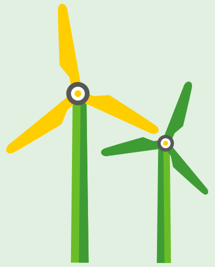


Uganda SDG investment grid

Power

Private-sector investment opportunity...

USD6.1bn



Total investment required to achieve universal access by 2030: **USD13.5bn**

Digital access

Private-sector investment opportunity...

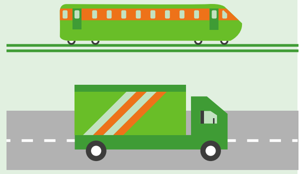
USD4.0bn

Total investment required to achieve universal access by 2030: **USD6.7bn**

Transport

Private-sector investment opportunity....

USD2.8bn



Total investment required to achieve significant improvements by 2030: **USD8.0bn**

Clean water & sanitation

Private-sector investment opportunity...

USD0.8bn

Total investment required to achieve universal access by 2030: **USD8.4bn**

Securing universal electricity access in Uganda offers the largest potential investment opportunity for private finance. Currently, over three-quarters (78 per cent) of Ugandans are without power, and providing and maintaining universal power access will require a total investment of USD13.5 billion between now and 2030, representing a private-sector investment opportunity of USD6.1 billion.

Investment in digital infrastructure is also much needed. Ensuring universal digital access – measured by mobile phone subscription rates and internet connectivity levels – will require total investment of USD6.7 billion, including private-sector investment of USD4.0 billion. In terms of transport infrastructure, Uganda's current Logistics Performance Index (LPI) infrastructure score is 2.19 (out of 5), placing the economy 124th in the world. To improve this score significantly will take a total investment of USD8.0 billion, representing a USD2.8 billion potential private-sector investment opportunity.

Two-thirds (66 per cent) of Ugandans also lack access to clean water and sanitation, and to provide universal access by 2030 will take a total investment of USD8.4 billion, with a private-sector investment requirement of USD0.8 billion.

Private-sector participation

Private-sector investment will play a significant role in Uganda's 2030 Roadmap, helping to unlock essential projects to support development. The government has taken steps towards creating a more attractive environment for private infrastructure investment through public-private partnerships (PPPs). In 2010, the government introduced the Public-Private Partnership Policy Framework, followed by the legal framework of the Private-Partnership Act in 2015.[84] The country's most successful PPP, the Umeme concession, has already distributed electricity more efficiently and improved access in the areas it services.[85]

Under the direction of the central Private-Partnership Unit in Kampala, the Ugandan government has enshrined private-sector participation in its approach to infrastructure. There is just under USD1.5 billion in active investment for infrastructure projects and USD1.9 billion has been directed for completed projects since 1990.[86]

USD2.8 billion

total private-sector investment required to significantly improve Uganda's transport infrastructure.

[84/85] View the World Bank story: "Leveraging Public-Private Partnerships to Plug Uganda's Deficit in Infrastructure Finance"

[86] View the PPP Knowledge Lab's page on Uganda's PPP Framework

Zambia

Closing the gap

Investor snapshot

Zambia has stated its commitment to meeting SDGs 6, 7 and 9, and is taking significant steps towards achieving the goals through private-sector investment, particularly in the hydropower sector. In terms of the private sector, the largest opportunity is in power, representing an estimated private investment opportunity of USD4.0 billion between now and 2030.

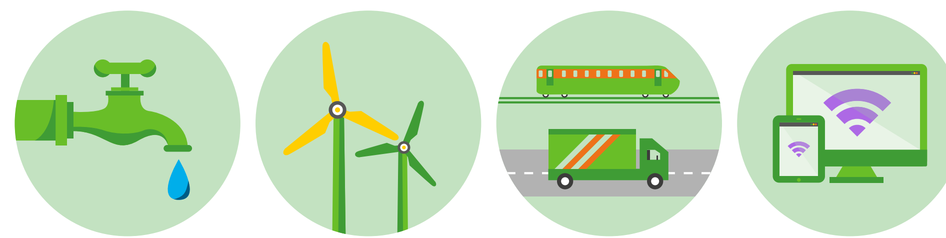
The government's Vision 2030 sets out its aim to make Zambia a prosperous middle-income nation by 2030, with particular focus on sustainable development, democracy and human rights, and public-private partnerships.[87] Progress towards the SDGs will help the country to address social issues (such as high levels of inequality), environmental issues (such as deforestation and land degradation), and economic issues (such as a lack of diversification). In particular, Zambia's rural regions currently lack the infrastructure development and improvement in living conditions that have benefited the urban population.

The government has integrated the majority of the SDGs into its Seventh National Development Plan, its blueprint for development for the next five years. Policies and programmes are designed to drive job creation, reduce income inequality and poverty, and aid development in rural areas.[88] Substantial private-sector participation will be needed to achieve universal access to safe water and sanitation as well as power, and to enhance the country's physical and digital infrastructure.

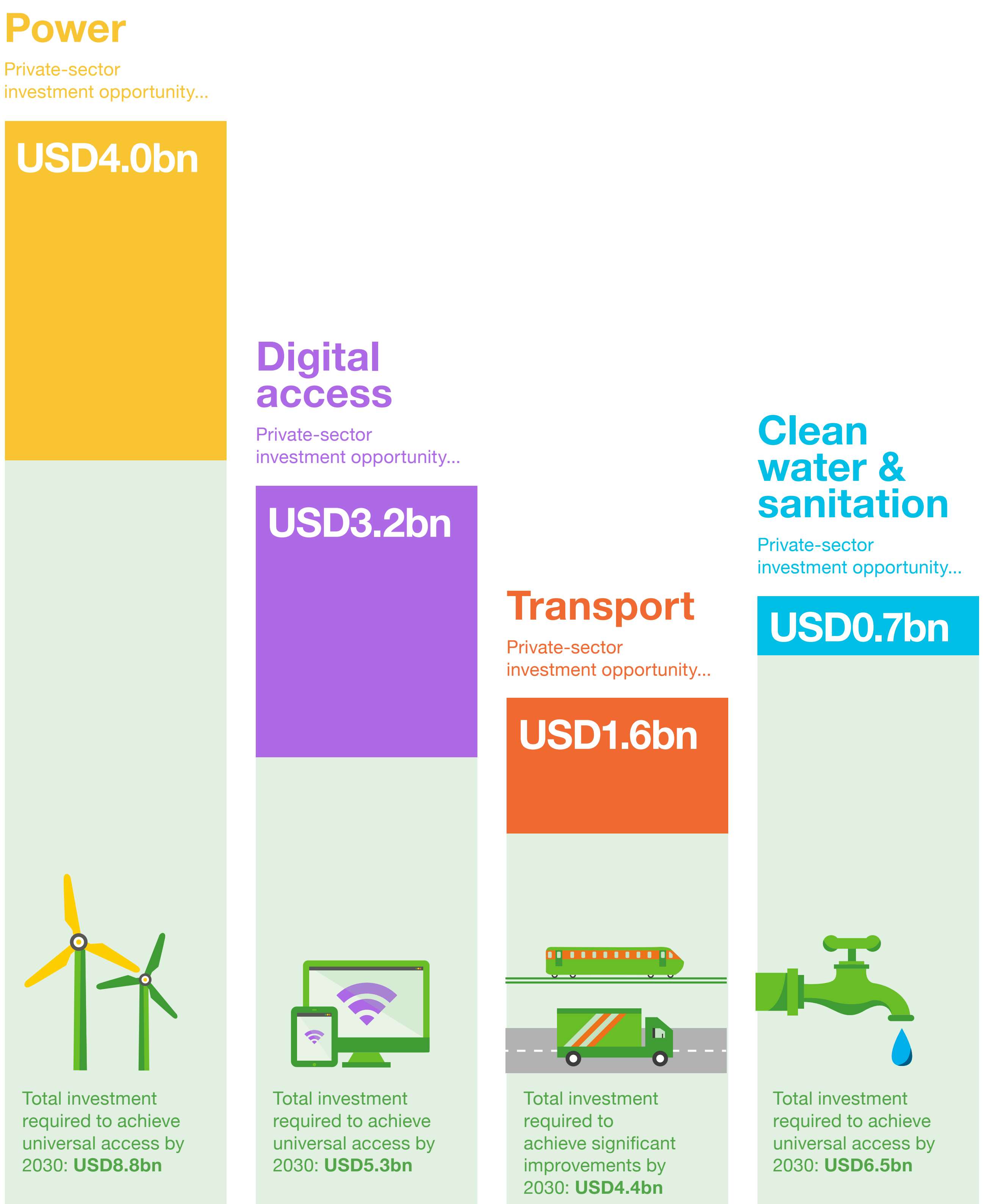
[87] View Zambia's Vision 2030 on the SDG Philanthropy Platform
[88] View the Zambia-United Nations Sustainable Development Partnership Framework (2016-2021)

According to our research, the combined potential private-sector investment opportunity in Zambia to 2030 – across the indicators we have measured as part of SDGs 6, 7 and 9 – is an estimated:

USD9.5bn



Zambia SDG investment grid



Currently, well over half (60 per cent) of the Zambian population do not have access to electricity. Investment of around USD8.8 billion is needed between now and 2030 to achieve universal access, with a private-sector investment opportunity of around USD4.0 billion. The government has committed to increasing its capacity in renewable energy generation by up to 15 per cent by 2030. However, there is also an acute need to diversify generation methods: in 2019, Zambia experienced its worst drought in almost four decades, severely impacting hydropower output, which currently accounts for over 90 per cent of Zambia's power production.[89]

Zambia's Logistics Performance Index (LPI) infrastructure score is 2.3 (out of 5), placing the country 108th in the world. Zambia will require total investment of USD4.4 billion to significantly improve its transport infrastructure by 2030, representing a private-sector investment opportunity of USD1.6 billion. Zambia's digital access rate – measured by mobile phone subscription rates and internet connectivity levels – is just 29 per cent. Achieving universal digital access will require total investment of USD5.3 billion, with a private-sector investment opportunity of USD3.2 billion.

More than half of the Zambian population (57 per cent) also lack access to adequate drinking water and sanitation facilities. It will take around USD6.5 billion between now and 2030 to achieve universal water and sanitation access, with a potential private-sector investment opportunity of around USD0.7 billion.

Private-sector participation

Private-investor participation is critical if Zambia is to make progress towards achieving the SDGs, particularly in diversifying its energy sector following the droughts that have stifled hydropower production. Indeed, in 2019, Zambia and Zimbabwe selected General Electric Co. and Power Construction Corp. of China to build the Batoka Gorge plant, a USD4 billion hydropower project straddling their borders.[90] Construction of the Kafue Gorge Lower hydropower station is also underway and is one of Zambia's major investments funded through a public-private partnership (PPP) model, with finance coming from the Zambian government and several overseas foreign financial institutions.[91]

Other key infrastructure projects are also under construction, with financing from foreign governments and private-sector companies. These include the new Copperbelt International Airport and the Kafulafuta Water Supply System project, which are both being funded by the Chinese government, and the Lusaka Water Supply and Drainage Project (backed by the US Millennium Challenge Corporation).

USD3.2 billion

private-sector investment needed to help Zambia achieve universal digital access by 2030.

[89] View the International Hydropower Association's page on Zambia
[90] View Bloomberg article: "GE, PowerChina Set to Build $4 Billion Zambia-Zimbabwe Plant"
[91] View Power Technology's page on the Kafue Gorge Lower (KGL) Power Station

Methodology

Opportunity2030 reveals the potential private-sector investment opportunity in helping to tackle some of the world's most urgent challenges. Our study examines the opportunity for investors to contribute to three of the most tangible, infrastructure-focused UN Sustainable Development Goals (SDGs): SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy) and SDG 9 (Industry, Innovation and Infrastructure). We focused on 15 of the world's fastest-growing economies where investment in the SDGs matters most: Bangladesh, China, Ghana, India, Indonesia, Malaysia, Pakistan, the Philippines, Sri Lanka, Kenya, Nigeria, Thailand, Uganda, Vietnam and Zambia.

We have chosen to focus on four sector indicators – water and sanitation services; power; telecoms (digital access); and transport infrastructure – that sit under the three SDGs:

SDG 6: Clean Water and Sanitation

Access to basic water and sanitation services, measured by an average of:

Percentage of population using at least basic drinking water (Source: WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene[92]); and

Percentage of population using at least basic sanitation services (Source: WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene[93]).

SDG 7: Affordable and Clean Energy

Access to power, measured by:

Percentage of population with access to electricity (Source: Sustainable Energy for All (SE4All[94]).

SDG 9: Industry, Innovation and Infrastructure

Digital access, measured by a weighted blend of:

Percentage of population using the internet (80 per cent weighting) (Source: ITU[95]); and

Number of mobile-cellular subscriptions per 100 inhabitants (20 per cent weighting) (Source: ITU[96]).

Availability of quality, reliable, sustainable and resilient transport infrastructure, measured by:

An increase in the infrastructure score under the Logistics Performance Index (LPI) (Source: World Bank[97]).

[92/93] Download the WHO UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene data
[94] Download The World Bank's Global Electrification Database (GED) data
[95] View the International Telecommunication Union's internet use data (subscription required)
[96] View the International Telecommunication Union's mobile cellular subscriptions data (subscription required)
[97] Download the World Bank's Logistics Performance Index data

Total investment required to achieve the SDGs

Our proprietary economic model uses available global data to examine the total investment required by country to achieve and maintain universal access in water and sanitation, power and telecoms. This total investment covers maintaining the service for those already receiving it and extending it to people who do not currently have it (taking into account projected increases in population), while our power calculation also accounts for expected changes to GDP per capita, an important driver of energy consumption.

For the fourth indicator – developing better transport infrastructure – we measure the investment required to maintain existing infrastructure and achieve a significant improvement in the Logistics Performance Index (LPI) score. The LPI is an indicator created and reported by the World Bank. The target for the 2030 LPI infrastructure score is an improvement of one standard-deviation based on the 2007-2018 average change in the LPI score for a country's income group, using four levels of income groups from World Bank classifications. We leverage an understanding of past performance to estimate how infrastructure could improve to 2030. We do this in part by calculating change in the LPI infrastructure score between 2007 and 2018, an 11-year time period (excluding 2007) that aligns to our study's 2020 to 2030 time period (including 2020).

The SDG 7 and 9 figures build on UNCTAD's 2014 World Investment Report: Investing in the SDGs: An Action Plan[98] as baseline global estimates (updated to 2019 prices), while for SDG 6 we use the average estimated total required investment cited in the World Bank and Water and Sanitation Program's 2016 report The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene. Our total investment required figure encompasses the finance needed in the sector indicators to achieve and maintain the SDGs by 2030, inclusive of current planned investment.

For SDG 6 and 7, our analysis is based on the total investment required to achieve the goal of universal access measured in each of these indicators by 2030. For SDG 9, which has broader aims than SDG 6 and 7, we selected two key sector indicators for infrastructure and telecoms to represent progress: developing sustainable and reliable infrastructure by 2030 (measured by improvements to its LPI infrastructure score) and achieving universal digital access by 2030[99] (measured by a weighted average of the percentage of population using the internet and the number of mobile-cellular subscriptions per 100 inhabitants).

Market investment required

To calculate the proportion of the global investment required to achieve the SDG objectives in each country, our model uses an algorithm that accounts for each market's current population access levels in each of the different sector indicators, population growth to 2030 and the cost of operating in the market. In the case of transport infrastructure, GDP is used instead of population to inform proportion because of the importance of infrastructure to economic size and productivity, while our power calculation also accounts for expected changes to GDP per capita, an important driver of energy consumption.

In two instances - transport investment for China and power investment for Zambia - we found that the estimations from our model were significantly lower than existing investment levels, so we made appropriate adjustments to the total investment opportunity based on current real world investment levels.

The potential private-sector investment opportunity

For each sector indicator, our model shines a spotlight on the opportunity for investors. It uses UNCTAD's estimated average private-sector participation rates in infrastructure projects for each indicator to reveal the potential private-sector investment opportunity in each of the 15 emerging markets. Final figures have been compared with our literature review and evaluated by our panel of expert advisors, comprising experts in development finance, infrastructure, industry and logistics, power and telecoms, as well as broader market experts and academics with specialist knowledge in the 15 key markets.

[98] View UNCTAD's World Investment Report 2014: Investing in the SDGs: An Action Plan
[99] The original indicator under SDG 9 related to digital access is to 'Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020'. For the purposes of this study we have extended this goal to 2030 and to universal access.

Standard Chartered
Our commitment to the SDGs

At Standard Chartered, we are committed to using our banking knowledge, products and unique footprint to fund sustainable development to where it matters most. We want to be part of the solution in bridging the SDG funding gap. In June 2019 we launched our first Sustainability Bond, raising EUR 500 million to fund projects aligned to the SDGs in emerging markets. In October 2019 our Group Chairman, José Viñals, joined the UN's Global Investors for Sustainable Development (GISD) to help push for more private-sector investment in achieving the SDGs. We also recently launched a sustainable deposit product for our corporate and institutional clients to help finance activities that support the SDGs in emerging markets.

Meanwhile, we have an ambitious new target to facilitate and finance USD35 billion of clean tech and renewables between 2020 and 2025, far exceeding our previous commitment of USD4 billion between 2015 and 2020. Having previously announced we will not finance new fired coal plans, we are taking further bold action and have made a commitment to phase out our exposure to thermal coal by 2030. We are also taking steps to measure, manage and ultimately reduce the emissions related to our client financing. Beyond climate change, we have mobilised USD1 billion in microfinance and placed the world's first blue bond.

Our Sustainability Aspirations 2019 build on our three sustainability pillars with measurable targets to demonstrate how we are achieving sustainable outcomes across our business.

For more on how we work with our clients to promote sustainable finance, click here.

Standard Chartered

We are a leading international banking group, with a presence in 60 of the world's most dynamic markets and serving clients in a further 85. Our purpose is to drive commerce and prosperity through our unique diversity, and our heritage and values are expressed in our brand promise, Here for good.

Standard Chartered PLC is listed on the London and Hong Kong Stock Exchanges as well as the Bombay and National Stock Exchanges in India.

For more stories and expert opinions please visit Insights at sc.com. Follow Standard Chartered on Twitter, LinkedIn, Facebook and Instagram.

Credits

Opportunity2030: The Standard Chartered SDG Investment Map is based on in-depth research commissioned by Standard Chartered, designed by Standard Chartered, Man Bites Dog and Oxford Analytica.

Disclaimer