Future of Consultancy

Global Export Strategy for UK Consultancy and Engineering
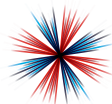
Analysis and Report by
Global Construction Perspectives
and Oxford Economics

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Acknowledgements

About the Authors

Graham Robinson is Director of Global Construction Perspectives and is one of the world's leading global construction economists according to ENR. He is an author of Global Construction 2030 and leads on consultancy assignments. He is Global Business Consultant at Pinsent Masons LLP the world's leading global law firm for construction and infrastructure.

Jeremy Leonard is Director of Global Industry Services at Oxford Economics and is responsible for overseeing the work of the industry forecasting team and managing the operation and output of the 77-country and 100-sector Global Industry Model as well as related consultancy assignments. He is an author of Global Construction 2030.

Toby Whittington is Senior Sector Economist at Oxford Economics and is responsible for the analysis and preparation of global construction forecasts as well as related consultancy assignments. He is an author of Global Construction 2030.

About Global Construction Perspectives

Global Construction Perspectives provides detailed forecasts of construction providing accurate and valuable analysis and evidence on the future of the global construction and engineering industry. Reports such as Global Construction 2030 help senior executives within the global construction industry make the right decisions about future strategy and direction. Global Construction Perspectives publishes reports on issues of strategic interest to the global construction and engineering industry and works with a wide range of sponsors and partners. Staff and consultants at Global Construction Perspectives have a wide range and depth of skills and a deep understanding of current and future trends in global construction.

About Oxford Economics

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic advice, forecasts and analytical tools to international institutions, governments and blue-chip companies. Building on these foundations, Oxford Economics is now an independently-owned world-leader in high quality, quantitative analysis and evidence-based business and public policy advice. Combining skilled analysis with detailed information on the global economic environment creates a firm base for decisions.

Contents

Joint Forward by Hannah Vickers and Clive Anderson

Hannah Vickers,
Chief Executive ACE

Clive Anderson,
ACE Board Member & Chair of International Business Group

The Future of Consultancy campaign is now recognised by government as part of the Industrial Strategy through the Construction Sector Deal and Transforming Construction Programme. The Future of Consultancy has four workstreams and importantly one of these is our export opportunities. The ACE's international strategy recognises that many member firms work overseas, underlining the significant reputation of the UK in providing world-class consultancy services to clients across the globe.

The coming years will be turbulent in international markets, with the continued uncertainty around the UK's place on the world stage as a result of Brexit. The government's focus on overseas aid spending on infrastructure and the wider export ambitions of the Department for International Trade and the Business Energy and Industrial Strategy mean there is opportunity to influence the agenda. Our focus is to help shape the UK Infrastructure Export Strategy and government funding overseas, develop networks and capability for firms who wish to work globally, and influence international procurement and contract law.

ACE members employ over 60,000 people in the UK and 250,000 worldwide, we contribute significantly to the national Gross Value Added of the construction and property sectors (8.3% of the total) but more significantly our work in the Built Environment influences the everyday lives of the whole UK population and the productivity of businesses in sectors making up over 30% of the economy.

ACE is a Member Association of The International Federation of Consulting Engineers (FIDIC) which represents one million professionals and 40,000 firms in more than 100 countries worldwide. The potential export markets are therefore enormous, as an example the global market for environmental expertise and technology is estimated at $1 trillion. Together we can find those opportunities, identify those market gaps, and collaborate to ensure that our data, expertise and products create value, and bring reward to society and the environment as well as sustainable growth to our businesses.

As part of the Global Export Strategy we asked Global Construction Perspectives and Oxford Economics to look at this global market opportunity. This report provides an initial priority list of markets which could potentially support an Export Strategy for UK engineering and consultancy firms focused on the infrastructure and construction sectors globally. It looked at these global markets and applied a balanced scorecard for exporting the capability and services that UK consultancy and engineering can provide. The report's findings were tested and agreed in a roundtable discussion with business leaders from across the spectrum of UK consultancy and engineering, brought together by the ACE's International Business Group.

We hope you will find this report of interest. We will be using it to guide our International Business Group programme and in doing so deliver on the ambitions of the UK Industrial Strategy and the Construction Sector Deal.

Global Export Strategy for UK Consultancy and Engineering
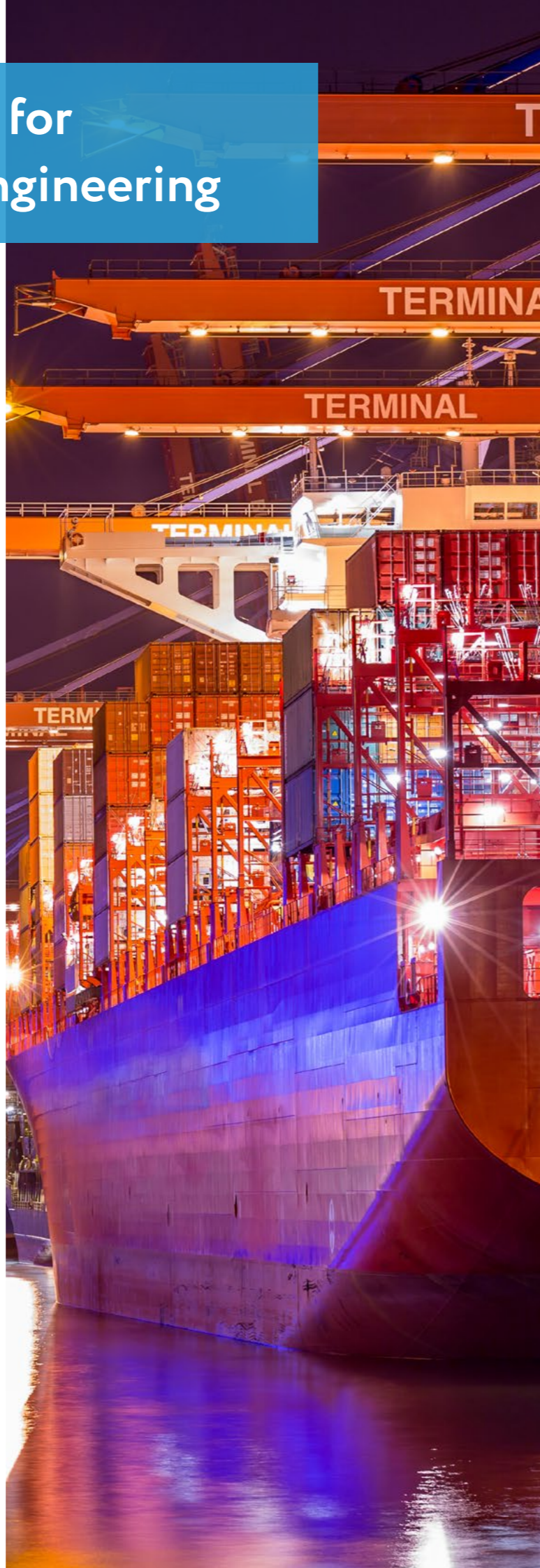
The analysis and the writing of this report has been undertaken by Graham Robinson from Global Construction Perspectives and Pinsent Masons LLP and Jeremy Leonard and Toby Whittington from Oxford Economics.

This report is part of the Transforming Construction challenge and Sector Deal for Construction under the UK Industrial Strategy. It outlines ten priority markets forming the basis for an Export Strategy for UK Consultancy and Engineering into the global construction and engineering market.

In selecting and ranking the ten priority markets included in this report we have used the Global Construction 2030 forecasts published by Global Construction Perspectives and Oxford Economics.

Global Construction 2030 is a major global study and forecast for the construction and engineering industry covering upwards to almost 100 countries and accounting for 97.6% of global output. It provides valuable evidence on growth for the global construction and engineering market.

Global Construction 2030 is supported by prominent global business leaders from North America, Latin America, Europe, MENA and Asia Pacific with the purpose of understanding the global construction and engineering market and the global forces shaping future demand.

Developing a Global Export Strategy for UK Consultancy and Engineering

The starting point for developing the basis for an Export Strategy was to look at construction and engineering markets globally and to develop and apply a balanced scorecard. The balanced scorecard was used to help select ten priority construction and engineering markets that would provide the basis for exporting the skills and products that UK consultancy and engineering can provide.

The balanced scorecard developed by the authors for selecting the ten priority markets blended the potential for growth in all markets globally with the relative size of markets in 2018 and 2030 and a range of other indicators and drivers such as population and demographics and urbanisation. It also included the relative condition and need for new and modernised infrastructure. These are all key drivers for growth underpinning the need for new and improved infrastructure as well as housing and other commercial and industrial facilities such as manufacturing and offices. We also considered the Corruption Index and Ease of Doing Business measure in selecting ten priority markets and the Rule of Law measure which helped us identify countries where an Export Strategy might work for UK consultancy and engineering.

In the final analysis we selected ten priority markets which provide a balance of opportunity across different parts of the world. This final selection required a degree of experienced judgement. The ten priority markets and the underlying balanced scorecard were tested and agreed in a roundtable discussion with business leaders from across the spectrum of UK consultancy and engineering and was brought together by the Association for Consultancy and Engineering (ACE).

ACE is a Member Association of the International Federation of Consulting Engineers (FIDIC) which represents one million engineering professionals and 40,000 firms in more than 100 countries worldwide.

Broad Types of Markets for UK Consultancy and Engineering

We examined the broad types of services provided by UK consultancy and engineering (broadly defined as engineering consultants and other professional services firms, such as law firms that provide services into construction and engineering markets, and commercial and project and programme management consultants). Our analysis and our balanced scorecard considered three broad types of markets that would be attractive to UK consultancy and engineering firms for differing products and services. These are:

1. Planning and Placemaking – typically characterised as emerging markets with strong population growth and rapid urbanisation. These countries generally lack either a comprehensive national level infrastructure plan or have significant national or sub-national master planning and development activity e.g. new city development such as the new planned capital city in Indonesia and new cities in Saudi Arabia or wider large scale intercity development such as the Smart City programme of 100 cities in India.

2. Delivering Integrated Projects – typically characterised as either developed or emerging markets having significant developed project pipelines which need to be delivered or where there are major projects that emerge from a comprehensive national level infrastructure plan that already exists. For emerging markets these countries might have a relatively good Rule of Law measure or be supported by Word Bank or Development Bank as well as inflow of international capital. Examples include Ethiopia and Indonesia.

3. Data Led Asset Performance – generally more highly developed advanced industrialised markets which are also typically characterised by higher levels of population growth or a change in built assets. The two countries we included are the US and Germany.

Planning and Placemaking markets give opportunity for high value master planning and other consultancy activity including developing programme and procurement strategies as well as specialised services.

Delivering Integrated Projects markets offer the opportunity for project level planning and engineering and architectural design as well as high value programme level and project and cost management.

Data Led Asset Performance markets provide opportunity to bring high level consultancy and engineering skills to create solutions involving the use of technology and data in developing greater efficiency in the use of existing infrastructure networks and the built environment and moving towards a net zero carbon future.

The skill sets offered by UK consultancy and engineering targeted at the construction and engineering sector are widely regarded as amongst the best in the world and advice from the UK is generally highly sought after internationally.

Prioritising Ten Markets for UK Consultancy and Engineering Export

We approached the selection of the final ten priority construction and engineering markets forming the basis for an Export Strategy for UK Consultancy and Engineering by blending together the analysis and data with expert judgement from business leaders within ACE who contributed to discussions during our roundtable meeting.

The final ten priority construction and engineering markets are summarised in Table 1 together with cumulative construction output 2018-2030 and categorised into the three broad types of market.
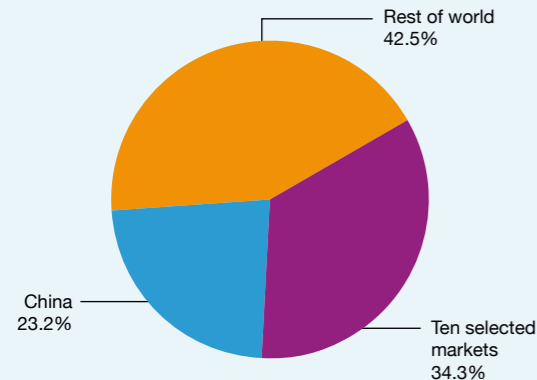
Table 1: Top Ten Priority Construction and Engineering Markets

	Country	Cumulative Construction Output 2018-30 (US$ bn)	Broad Type of Market
1.	United States	22,891	Data Led Asset Performance
2.	India	10,011	Planning and Placemaking
3.	Indonesia	6,001	Planning and Placemaking
4.	Germany	5,219	Data Led Asset Performance
5.	Australia	4,442	Delivering Integrated Projects
6.	Canada	3,870	Delivering Integrated Projects
7.	Mexico	2,159	Delivering Integrated Projects
8.	Saudi Arabia	1,564	Planning and Placemaking
9.	Malaysia	971	Planning and Placemaking
10.	Ethiopia	831	Planning and Placemaking

Source: Global Construction 2030, Global Construction Perspectives and Oxford Economics

Fig. 1 Cumulative global construction output, 2018-2030

Total = US$172 trillion

Rest of world 42.5%
China 23.2%
Ten selected markets 34.3%

Source: Global Construction Perspectives and Oxford Economics

Fig. 2 Construction output growth in ten selected markets, 2018-2030

CAGR, %

Malaysia, Ethiopia, Saudi Arabia, Mexico, Canada, Australia, Germany, Indonesia, India, United States, World

Source: Global Construction Perspectives and Oxford Economics

Fig. 3 Dependency ratio in ten selected markets

Ratio of population <15 and >64 divided by population 15-64

Malaysia, Ethiopia, Saudi Arabia, Mexico, Canada, Australia, Germany, Indonesia, India, United States

2030 / 2018

Source: Oxford Economics

The ten priority markets for construction and engineering that we have identified represent accumulated construction output of US$58.9 trillion over the period 2018-30 or almost US$5 trillion per annum and account for one third of all global construction output over the period to 2030. Given that construction output in China alone accounts for 23.2% of total accumulated global construction output then the ten priority markets we have identified account for almost 45% of global construction output excluding China.

The two countries that we have identified which provide Data Led Asset Performance opportunities account for an accumulated construction output of US$28.1 trillion which is dominated by the United States at US$22.9 trillion. The combined accumulated Planning and Placemaking markets account for US$19.4 trillion over 2018-30.

Priority Export Markets for UK Consultancy and Engineering – Growth Story

The ten priority markets we have identified vary in growth rates.

Our forecasts show India is the fastest growing major construction and engineering market globally with over US$10 trillion in accumulated construction output over the period 2018-30. The construction market in India will be worth over US$1.2 trillion annually by 2030 and growth will average 7.6% per annum over 2018-30. Ethiopia, which has World Bank support and has huge population growth, is forecast to grow at an average of 6.6% per annum over 2018-30.
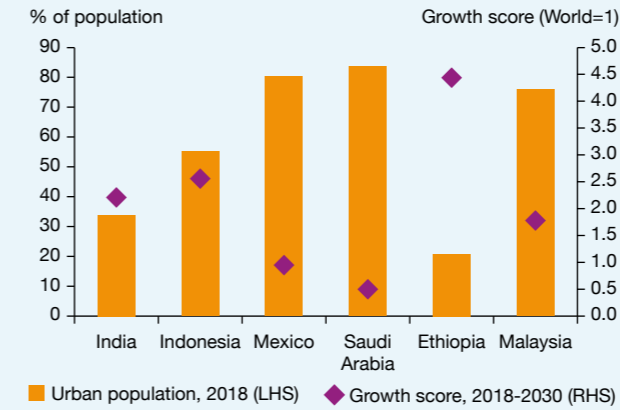
Germany is the slowest growing of all ten priority markets we have selected with an annual average rate of growth in construction output of 1.3% over the period 2018-30. We forecast that Canada, US and Mexico as well as Australia will all grow at a rate which is below the global average growth in construction output over 2018-30.

Population and Demographics – Driving Growth

Population and demographics are key drivers for construction output and the dependency ratio in countries is an important measure. The dependency ratio measures the percentage of school age and retired age population that is dependent on working age population (generally measured globally as 15 and above and up to and including 64 years). Falling dependency ratios boost economic growth within a country. A total of five of the ten priority markets we have selected have falling dependency ratios – Ethiopia, Saudi Arabia, Mexico, Indonesia and India. Ethiopia has the sharpest falling dependency ratio. Conversely, Germany and Canada have the fastest accelerating dependency ratios.

Growing populations give support to growth in basic infrastructure such as housing and utilities. A growing working age population may boost the need for manufacturing and offices as well as transportation infrastructure whilst an ageing population will generally require greater healthcare infrastructure.

Fig. 4 Urban population and growth score in Planning and Placemaking markets

% of population / Growth score (World=1)

India, Indonesia, Mexico, Saudi Arabia, Ethiopia, Malaysia

Urban population, 2018 (LHS) / Growth score, 2018-2030 (RHS)

Source: Oxford Economics
Note: Higher values mean stronger growth

Fig. 5 Corruption perception index in ten selected markets

Index (World average=1)

Malaysia, Ethiopia, Saudi Arabia, Mexico, Canada, Australia, Germany, Indonesia, India, United States

Source: Transparency International
Note: Higher values mean less corrupt

Global Cities Driving Growth for Construction and Engineering

Urbanisation is another key driver as cities take over in combined size to become more important than national economies. Growth in cities globally provide opportunity for urban landscapes and infrastructure such as metro and light rail systems and other urban infrastructure. In our balanced scorecard we measured the growth score in relation to how urbanisation will boost growth for all countries compared to the global average. Ethiopia has the highest growth score of the ten priority markets we selected.
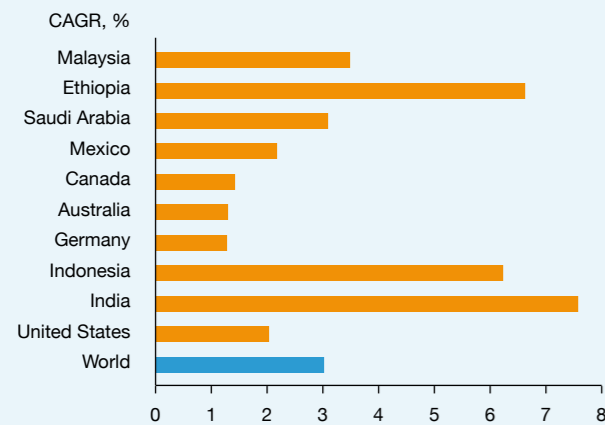
Ethiopia is also the least urbanised of the ten selected priority markets with 20.8% of its 107.8 million population in 2018 living in urban areas of the country. Ethiopia will witness huge growth in population to 140 million people by 2030 adding 32.2 million new people whilst its urban population is expected to increase by 14.5 million over 2018-2030 or by some average 1.2 million people per annum.

Growth in population in India is also high, with another 150 million new people by 2030. This will boost total population to 1.5 billion in India by 2030. Urbanisation in India is very strong as India is one of the least urbanised countries in the world. India will need to accommodate 116 million new urban citizens by 2030 or almost an average of 10 million each year to 2030. To cope with growing populations and demographics India must build 170 million new homes over a 15-year period (equivalent to 11.3 million per annum or 31,000 per day).

Transparency and Corruption – Vitally Important for UK Consultancy and Engineering

Transparency and corruption are important issues for the construction and engineering sector. In our balanced scorecard we used the Transparency International Corruption Index and weighted this quite highly. All firms in the sector are concerned about maintaining the highest standards of conduct. This measure alone ruled out many markets considered by the authors and expert panel as too corrupt to effectively operate. This does not mean that some of the ten priority markets do not have higher levels of corruption than UK. Four countries out of the ten priority markets selected have elevated levels of corruption as measured by Transparency International – Mexico, Ethiopia, Indonesia and India. Some of these countries also have very high Ease of Doing Business scores.
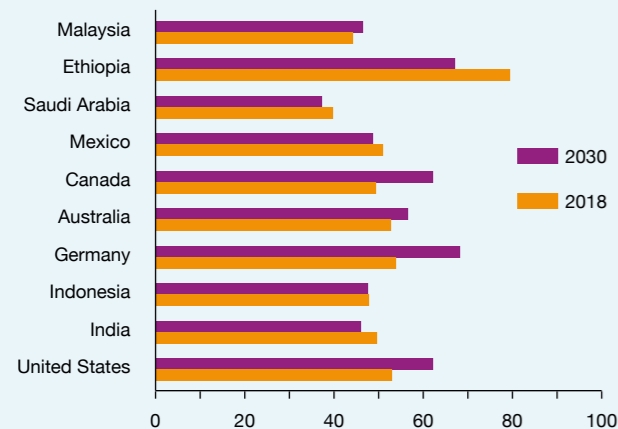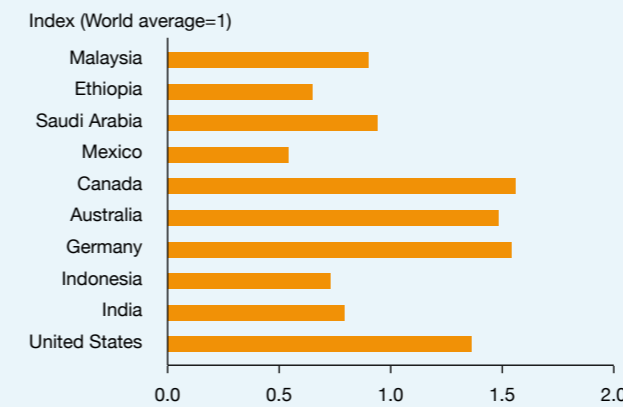
Fig. 6   Near-term global investment indicators

% year, 3-month moving average   Standardised indicator

Note: weighted average for US, Germany and Japan

— Investment orders (LHS)
— Survey indicator 3-month lead (RHS)
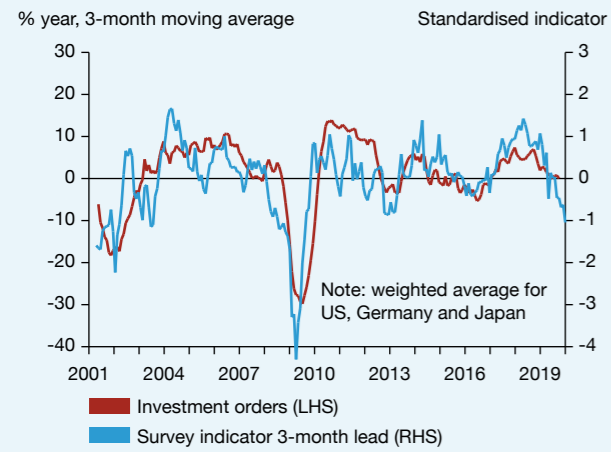
Source: Oxford Economics/Haver Analytics

Fig. 7   World GDP growth and PMI

Index   y/y % change

— Composite PMI 2 month lead (LHS)
— GDP growth (RHS)

Source: Oxford Economics/Haver Analytics and IHS Markit

Current Conditions in Global Construction Markets

Global construction output is expected to reach US$11.3 trillion in 2019, of which 48% was in the developed world and 52% in emerging economies. This estimate represents growth of 2.6% on the year earlier and is the first time growth is expected to fall significantly below the 3% threshold in eight years. The slowdown is squarely focused on the developed economies, particularly North America.

Near-term prospects for construction are hampered by a world economy whose momentum has ebbed and whose risk of falling into recession has risen. The weakness is centred on industrial activity, driven in large part by a substantial slowdown in global trade flows driven by the escalating US-China trade war. This has had negative consequences not only for China and the US, but for countries with heavy export exposure to China, such as Japan, South Korea, the ASEAN nations and Germany. In addition, the investment cycle has turned decidedly negative.
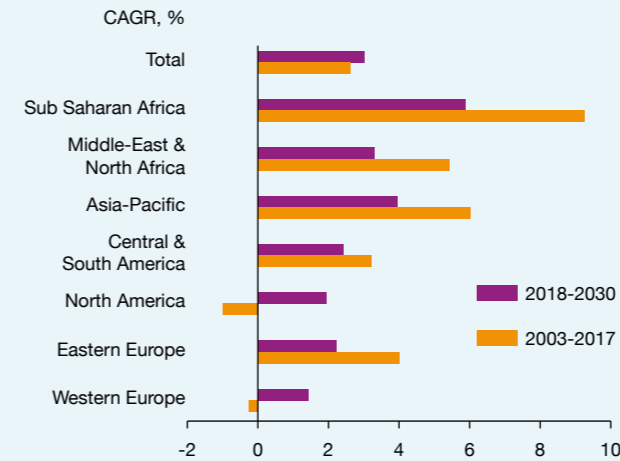
The economic slowdown is weighing on inflation and commodity prices.

Notwithstanding the recent attacks on the Abqaiq and Khurais oil refining facilities in Saudi Arabia, we expect oil prices to remain rangebound between US$55/b and US$65/b for the next several years – below their levels in 2018. This is mainly due to resurgent US unconventional oil extraction, whose output is expected to increase at double-digit rates this year and will provide a supply cushion in the event of further disruptions in the Middle East. In addition, the industrial slowdown has weighed on demand for industrial commodities such as iron ore and nonferrous metals. As a result, commodity exporters such as Australia, Canada and Indonesia are facing slower economic growth in the near term.

Central banks have responded with a cycle of monetary policy loosening as an "insurance policy" against recession, hoping to bolster confidence, spur borrowing and avert further slowdown. But the reduced effectiveness of monetary policy in the current environment and the small likelihood of a definitive and imminent end to US-China tensions imply that a notable growth pick-up, as seen in 2017, is unlikely in the near term.
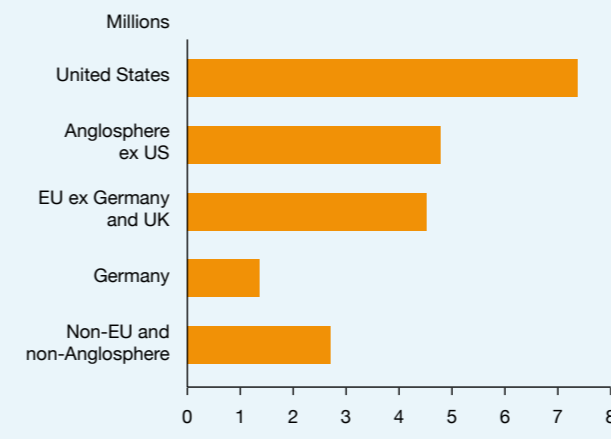
One side effect of accommodative monetary policy and low interest rates is that capital flows to higher-risk, and higher-opportunity, economies in sub-Saharan Africa and elsewhere are likely to remain robust as investors seek to increase returns. Sub-Saharan Africa will see construction spending growth of more than 6% this year and next, well ahead of all other global regions. For the construction sector more broadly, low borrowing costs and relatively easy access to financing is a strong support to activity, and it is one of the reasons that the construction growth outlook for next year at 3.1% is somewhat higher than that for GDP.

Fig. 8   World construction output growth

CAGR, %

Total
Sub Saharan Africa
Middle-East & North Africa
Asia-Pacific
Central & South America
North America
Eastern Europe
Western Europe

■ 2018-2030
■ 2003-2017

Source: Global Construction Perspectives and Oxford Economics

Fig. 9   Cumulative permanent immigrant flows, 2010-16

Millions

United States
Anglosphere ex US
EU ex Germany and UK
Germany
Non-EU and non-Anglosphere

Source: Organization for Economic Co-operation and Development
Note: Anglosphere includes US, UK, Canada, Australia, New Zealand

A final factor underpinning our belief that the current economic slowdown will not deteriorate to a full-fledged global recession is the resilience of labour markets and income growth. Unemployment rates are at or near historic lows in large developed economies, including the United States and Germany, and income growth is picking up even as inflation remains benign. As a result, low inflation is coupled with an acceleration in income and historically low unemployment across much of the developed world, especially in the United States.

While our base case assumes no end to the global expansion, we would warn against complacency over the risk of global recession. For monetary policy loosening to place a floor under global growth, it will need to be augmented by more accommodative fiscal policy and perhaps a bit of luck in the form of no further major negative shocks.

Factors Affecting the Construction Outlook in the Ten Priority Markets

Despite the pessimistic near-term view as the world copes with a cyclical economic slowdown, the outlook for construction activity over the next decade offers a wealth of opportunities. Spending growth is expected to average 3% per annum in volume terms – faster than over the past 15 years and faster than the forecast growth rate of GDP. The ten countries selected as key markets for UK consultancy and engineering account for more than one-third of the US$172 trillion of forecast cumulative construction spending from 2018 to 2030.

The most rapid growth is, unsurprisingly, expected to be in emerging markets.

Just as important is the forward-looking view in the key developed markets of North America and Western Europe which stands in sharp contrast to the past 15 years. Construction activity in 2017 was still below its level in 2003 in these regions because of the severe impact of the 2008-09 global financial crisis on construction. A further rebound in medium-term construction cycles means that they will once again contribute to growth and allow the global growth rate to accelerate slightly.

Despite this rebound, average annual construction growth in the developed world through 2030 is expected be only half that of the world average. This reflects the pattern of "secular stagnation," which refers to a combination of ageing populations (which leads to a reduction in consumption and demand for housing and commercial construction) and slowing productivity growth (which leads to a lower potential growth rate for the economy and slower income growth). This is especially the case for Japan, where the population has already begun to decline. A secondary effect is tighter public finances as more government spending is devoted to old-age income schemes and healthcare, highlighting the increasing need for private financing to fund major infrastructure projects.

Fig. 10 Working-age population growth in key emerging markets, 2018-2030

CAGR, %
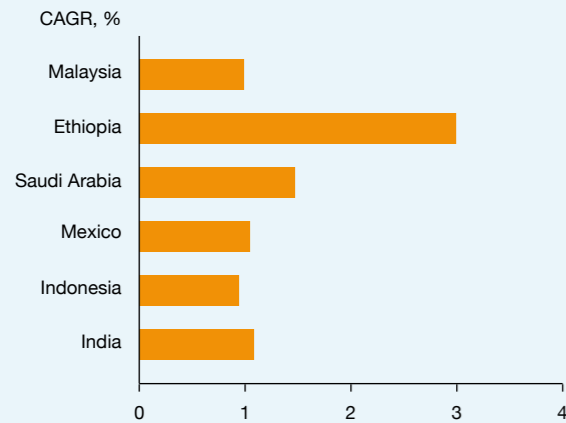
Source: Oxford Economics

Fig. 11 Number of middle- and high-income households

Millions
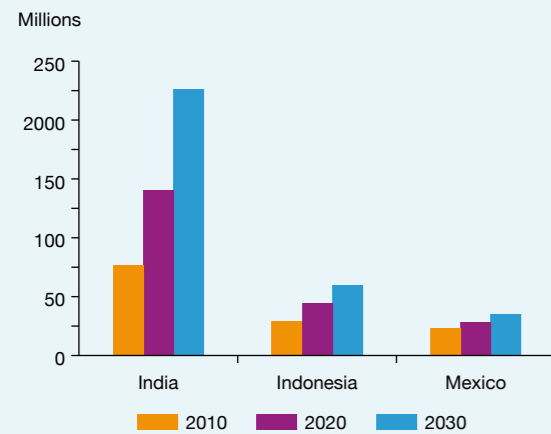
Source: Oxford Economics

Immigration in Anglosphere helping support construction demand

The Anglosphere (defined as US, UK, Canada, Australia and New Zealand) accounts for 60% of total inflows of permanent immigrants to the OECD despite accounting for just 35% of the OECD population. This is boosting growth rates of the working age population higher than elsewhere in the developed world, helping drive robust construction demand and mitigating some of the pressures related to secular stagnation.

Recent large-scale immigration to Germany has had a much less dramatic impact on demographics.

The importance of migration to the developed countries cannot be understated. In many of them, immigrants are the only factor sustaining working-age population growth, which is a key component of the productive capacity of the economy.

Foreign-born workers are vitally important to construction labour markets, and the dominance of the Anglosphere in terms of attracting immigrants is one of the reasons why the construction outlook for the United States, Canada and Australia is more positive than for Western Europe – though Germany has seen a dramatic increase in refugees from Syria over the past several years and to the extent that they settle there, they will provide relief to currently tight labour markets.

In most emerging-country export markets identified in this report, demographics are very favourable for strong demand for construction activity. The working-age population (between ages 15 and 64) is expected to increase by at least 1% per annum on average across the selected emerging markets, with especially strong growth in Ethiopia and Saudi Arabia.

These demographic trends are paired with strong growth in incomes, which is powering a meteoric rise in the number of middle- and high-income households, particularly in Asia. We expect that by 2030, the number of middle-class households in India and Indonesia will number close to 300 million – almost triple the number a decade ago and more than the entire populations of Germany and Japan combined.

The massive increase in spending power is generating demand for not only infrastructure development, but also residential, commercial and education/healthcare to accommodate strong consumer demand. The result is that many large economies in Asia are becoming less dependent on exports to the slower-growing developed economies.

Emerging markets are also benefiting from active policy initiatives to diversify their economies and better integrate them globally.

In India, President Modi's "Make in India" plan is now in its fifth year. Designed to encourage foreign firms to locate production in India across 25 sectors across the industrial spectrum, it has eased rules on foreign investment (with 100% foreign ownership permitted in most sectors) and this resulted in commitments of more than US$60bn in announced new foreign investment projects. In addition, a successful simplification of the cumbersome and complicated VAT, as well as other changes to business regulations, has allowed India to jump 23 positions to 77th out of 190 countries in the World Bank's most recent Ease of Doing Business rankings. A key enabler of additional manufacturing investment is improvements to internal transport infrastructure to support manufacturing and distribution, as well as building and improving ports and airports for international trade. To this end, a task force was established in July 2019 to draw up ambitious plans for building infrastructure worth US$1.45 trillion over the next five years.

More recently, Saudi Arabia has announced its "Vision 2030" initiative to reduce the kingdom's dependence on oil extraction as a driver of economic growth. Part of this entails development of more profitable downstream sectors from oil, such as petrochemicals and plastics. However, the main focus is diversification, with key sectors targeted for development including healthcare, education, infrastructure, recreation and tourism, which will open ample opportunities for commercial construction – with the caveat of course that the funds available to finance this diversification are still to a large extent tied to the oil price, which is unlikely to rise significantly.

The current Ethiopian government plans to liberalise the economy, with part or full privatisation of state enterprises in aviation, energy and telecommunications, which is widely expected to open foreign investment in these sectors. Infrastructure is seen as a key driver of structural transformation.

The next parts of this report provide an overview of the economic and construction and engineering outlook for the ten priority markets for construction and engineering and a note on the methodology used for our balanced scorecard and forecasts.

01 United States

Fig. 12 Construction output

$bn, 2017 prices — % change

- Gross output, 2017 prices (LHS)
- % change (RHS)
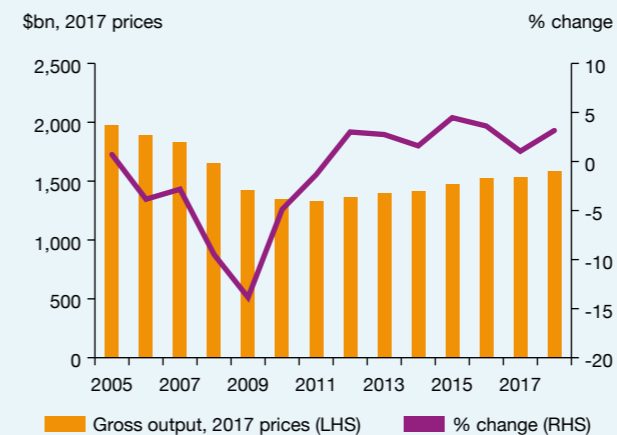
Source: Global Construction Perspectives and Oxford Economics

Fig. 13 Construction growth outlook
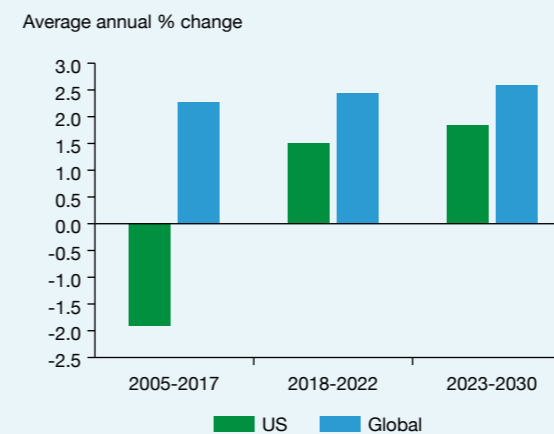
Average annual % change

- US
- Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 14 GDP

$bn, 2017 prices — % change

- Gross output, 2017 prices (LHS)
- % change (RHS)
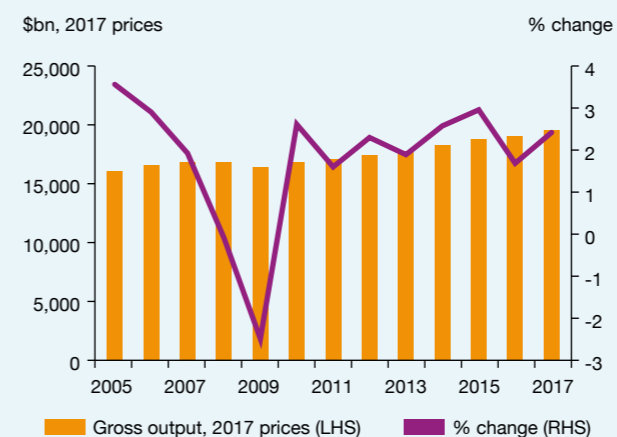
Source: Global Construction Perspectives and Oxford Economics

United States

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in the United States is set to grow at an average of 2.0% per annum over the period 2018-2030. Growth in infrastructure construction is forecast to be highest over the period to 2030 but residential construction will also be a driver. The United States is the second largest construction market globally behind China and construction output in 2018 was US$1.581 trillion at 2017 prices. By 2030 the construction market will be worth over $2 trillion in 2017 prices.

US construction is witnessing a short-run slowdown amid weakness in the residential sector. Much of the reason for this is on the supply-side as a severe shortage of skilled construction labour hits the country's ability to meet its construction needs. Over the long-run however, we expect these problems to abate, with residential being a major driver of overall construction activity, given the lack of new homebuilding in recent years and the pent-up housing demand that has generated because of this and the significant investment going into off site factory based construction. In addition, the civil engineering sector will see activity pickup in the medium term as the necessity of replacing crumbling US infrastructure becomes ever more pressing.
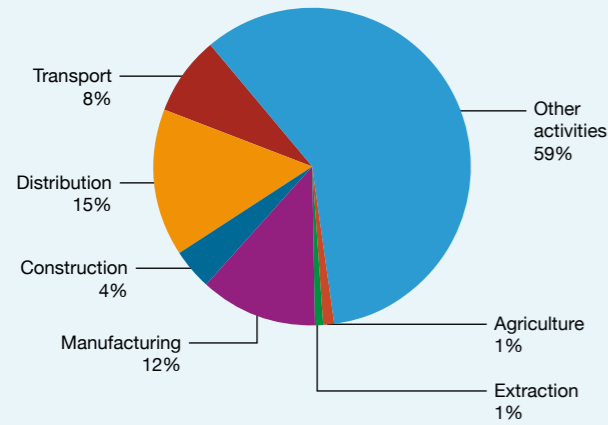
Economic Outlook

Over 2018-30, we forecast headline GDP to expand by 1.9% per year. Investment is forecast to grow at a faster rate than GDP over the forecast period increasing by 2.5% per annum. Inflation as measured by the CPI index will increase by 2% per annum over 2018-30, in line with other developed western countries. Long-term interest rates are forecast to rise to 3.3% by 2030, relative to 2.9% in 2018. The government is expected to increase state investment expenditures by on average 0.3% per annum out to 2030, with the fiscal balance is set to worsen over the next decade, reducing to -8.1% of GDP, compared to -6.5% GDP in 2018.
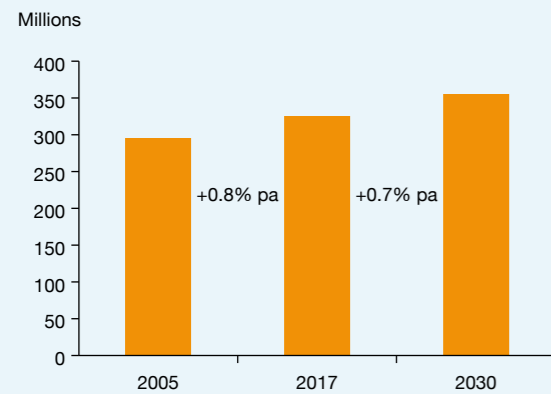
Population and Urbanisation

We expect US population growth to increase by 0.7% per year over 2018-30. By the end of the forecast period, total population will stand at 355 million, 27 million more people than today. In Canada, the only other North American country, we expect average population to grow by 0.9% per year over the same period. The urban population is set to expand at a faster rate than total population, with the result that the US's urban population will be 89% of total population by 2030. This will mean an additional 44.5 million urban citizens by 2030. The age demographics in the US will become less challenging over the next decade. The working population is forecast to increase from 78.6% today to 79.7% by 2030.
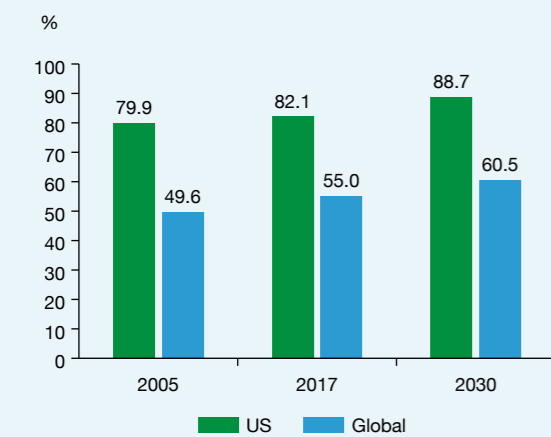
Fig. 15 Main industries in 2017 GDP

- Other activities 59%
- Transport 8%
- Distribution 15%
- Construction 4%
- Manufacturing 12%
- Agriculture 1%
- Extraction 1%

Source: Oxford Economics, GCP

Fig. 16 Population

Millions

+0.8% pa   +0.7% pa

2005   2017   2030

Source: United Nations

Fig. 17 Urbanisation

%

2005: 79.9 / 49.6
2017: 82.1 / 55.0
2030: 88.7 / 60.5

US   Global

Source: United Nations

Construction Market

The United States is the largest advanced industrialised nation in the world and the world's largest economy. There is significant opportunity for the repair and modernisation of existing infrastructure networks that will boost efficiency and productivity.

The quality of US infrastructure was ranked at 9 out of 140 countries in the latest Global Competitiveness Report from the World Economic Forum. This compares with Germany ranked at 7, France ranked at 8, and the UK at 11.

The American Society of Civil Engineers (ASCE) Report Card for America's Infrastructure is published every four years and gives a condition and performance report on the country's transport, energy, water and waste infrastructure.

The latest edition of the ASCE Report Card was published in 2017 and gave a 'poor' overall grade of D+. Aviation, Roads, Dams and Drinking Water all scored D, while Ports improved on the 2013 report to a C+ and Rail to a B grade. The ASCE estimates the US needs to spend some US$4.5 trillion by 2025 to fix the country's roads, bridges, dams, and other infrastructure.

In February 2018, the White House released its infrastructure initiative, under which the Trump administration aims to provide US$200 billion in the next ten years to encourage states, local governments and private sector investors to contribute towards a projected US$1.5 trillion to rebuild America's crumbling infrastructure. Of the total investment, US$100 billion will be allocated for incentive grants to state and local governments that can demonstrate innovative approaches to create new revenue sources.

The government plans to invest US$3.2 billion for the development and upgrade of airports in the country, in its Airport Improvement Program. June 2018 saw 346 airport projects announced in Phase 1, for which US$677 million was allocated. The government also announced plans to invest US$1.5 billion to modernise and develop the country's highways and bridges across the country.

The Trump government's 50 priority infrastructure projects are listed in its Priority List: Emergency and National Security Projects document from 2017, which suggests a total investment of US$137.5 billion is required.

Some of the biggest projects on the list are in the greater New York City Area, including the single biggest project in the Top 50, the Gateway Program. This US$12 billion project is a major upgrade to the Northeast Corridor rail infrastructure, linking Newark and New York City.

Another NYC area project is Phases 2 and 3 of the 2nd Avenue Subway with an estimated cost of $14.2 billion. The US$4.5 billion first phase is complete and operational, while the US$6 billion second phase is due to start along 125th Street, adding three new stations in East Harlem. Work is due to complete on this phase in 2027, with the final fourth phase operational by 2036.

Other projects on the Priority List include the repair of 15 Bridges on I-95 highway in Philadelphia, at a cost of US$8 billion; the Texas Central Railway project (US$12 billion) and the DC Union Station Expansion and upgrade (US$8.7 billion). The US$2 billion Seattle Airport Expansion and the US$1.8 billion St Louis Airport projects also feature.

The US$4 billion Southeast High-Speed Rail Corridor (SEC) is a proposed passenger rail line providing high-speed passenger rail services from Washington, D.C. south through Richmond, Petersburg to Charlotte in North Carolina and connect with the existing high-speed rail corridor from D.C. to Boston, Massachusetts.

The decade-long dream for a high-speed rail network connecting San Francisco and Los Angeles was dented in early 2019 when California Governor Gavin Newsom said in his State of the State address that the current project would cost too much and take too long. However, high-speed rail from Merced to Bakersfield in the San Joaquin Valley is still under development.

A new crop of aerospace firms is moving into former facilities in California, from the Mojave Air and Space Port in the desert north of Los Angeles to the coastal launch pads at Vandenberg Air Force Base. One such company is continuing tests on a hyperloop system being developed at the firm's HQ in Hawthorne, California, with trial pods recently reaching a new top speed of 288 mph.

In September 2019, the Georgia Ports Authority announced plans to build a new container terminal on Hutchinson Island across from its existing Garden City facility. The new facility will double capacity to 11 million twenty-foot equivalent container units (TEU) per year. The new terminal on Hutchinson Island would be on a 200-acre site directly across from Ocean Terminal in Savannah, with an annual capacity of 2.5M TEU.

Meanwhile, President Trump's key pledge to build a wall along the border with Mexico is forecast to require a total of US$18.4 billion in funding through 2020. The president has pledged to complete nearly 500 miles of new barrier by the 2020 election, costing about US$36 million per mile.

The United States is the world's largest producer of nuclear power, accounting for more than 30% of worldwide nuclear generation of electricity, according to the World Nuclear Association (WNA). The country has 98 operating nuclear power reactors in 30 states, which together produced 807 billion kWh of energy in 2018 - about 20% of total electrical output. There are two AP1000 reactors under construction at Vogtle, due to come online in 2020.

Recent reports suggest that the ongoing boom in shale gas development is likely to reach a peak by 2030, with most of the 14.5 million barrels per day by then coming out of West Texas' Permian Basin.

A final decision on whether to proceed with the US$30 billion Driftwood liquified natural gas (LNG) project in Louisiana is due to be made soon. If it goes ahead, the plant is due to enter service in 2023. Driftwood is designed to produce 27.6 million tons per annum of LNG or about 4 billion cubic feet per day of natural gas. Driftwood is one of about a dozen US LNG export projects which are waiting for the all clear to proceed in 2019.

Several large renewables projects are planned. The Chokecherry and Sierra Madre Wind Project in Wyoming is a US$5 billion scheme for the installation of up to 1,000 wind turbines with a capacity of 3GW. In Nevada, a US$5 billion, 2GW solar plant is planned at the Sandstone Energy X solar array.

Companies are investing in data centres around North Texas to build out their own capabilities or to serve the surging demand for other businesses. A US$400m extension to a US$1 billion data centre in Garland is due to complete in 2021.

The demand for office buildings in the United States is increasing, due to the government's decision to decrease the corporate tax rate. Research by JLL suggests that more than 62 million square feet of new office space is due to come to market between now and the middle of 2020. By far the largest amount – 16 million sq. ft – will be in New York City, with 9.7 million sq. ft in Washington, DC and 7.1 million sq. ft in Chicago.

Four major office projects of over 300,000 sq. feet started in construction in the second quarter of 2019 - 5M in San Francisco, Phase 2 of the Wharf in Washington, DC, Avocet Tower in Suburban Maryland and the Summit III in Bellevue.

New York also leads the way in terms of the largest US markets for hotel rooms under construction, with 14,726 rooms planned, representing 7.3% of the national pipeline. Dallas is fourth in the list with 6,183 rooms (3.1% of national pipeline), with LA fifth with 6,120 rooms due to come onstream.

Population growth and ongoing urbanisation coupled with increasing private investment in residential construction will mean the housebuilding market maintain its dominance as the largest construction sector in the US.

According to the US Census Bureau, the number of new privately-owned housing unit permits authorised in the country grew by 3.7% in 2018 to 1,328,827, up from 1,281,977 in 2017.

The long-running Home Investment Partnerships Program (HOME) aims to provide financial assistance to the states and localities that buy, build or reconstruct houses in partnership with local non-profit organisations to provide houses to low- and middle-income people at affordable rents. In the 2018 Budget, the government increased its spending on the Home Investment Partnerships program by US$412 million to US$1.4 billion.

However, in the 2019-20 budget, funding for the HOME Investment Partnerships Program was cut by $110 million, with the Trump administration believing that community development and affordable housing needs are best left to state and local governments and the private sector.

In the run-up to the 2020 elections, Democrat Bernie Sanders has pledged that he would commit to delivering 12 million social housing units permanently outside the private market over ten years if he were to be elected.

The San Francisco Shipyard and Candlestick Redevelopment, currently in planning, will see construction across two sites, totalling 750 acres, and feature over 12,000 homes, 5 million sq. ft of commercial space, educational institutions, and 1 million sq. ft of retail and entertainment space.

Meanwhile, about 2,300 acres of the former Naval Weapons Station at Concord is due to be redeveloped for a mix of housing, commercial centres, a college campus, schools and public spaces. Phase 1 of the US$6 billion project will see construction of 13,000 housing units.
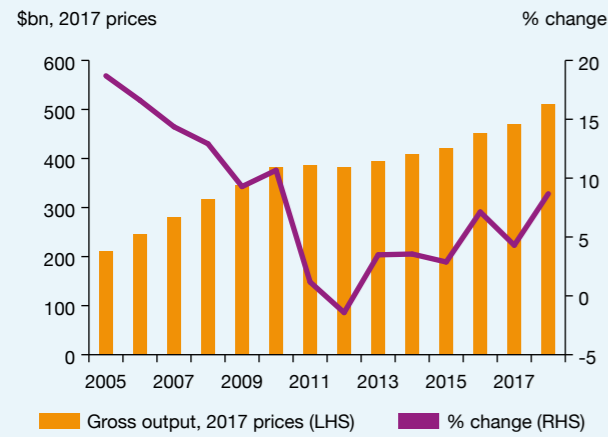
02
India

Fig. 18 Construction output

$bn, 2017 prices / % change

Gross output, 2017 prices (LHS)
% change (RHS)

Source: Global Construction Perspectives and Oxford Economics

Fig. 19 Construction growth outlook
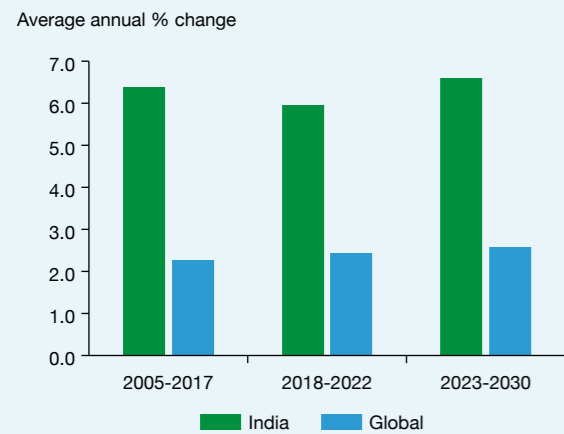
Average annual % change

India   Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 20 GDP

$bn, 2017 prices / % change

Gross output, 2017 prices (LHS)
% change (RHS)
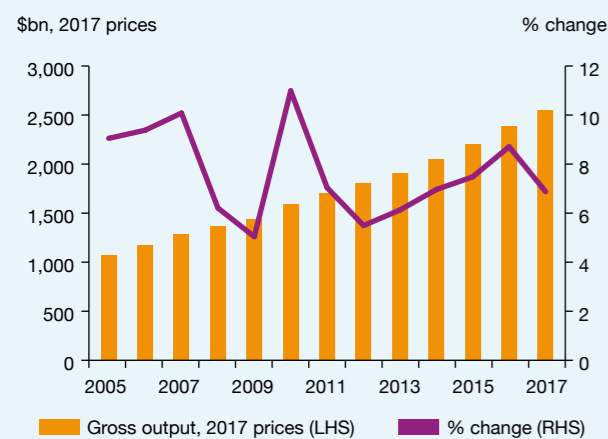
Source: Global Construction Perspectives and Oxford Economics

India

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in India is set to grow at an average of 7.6% per annum over the period 2018-2030 and will be the fastest growing major construction market globally. Growth in residential construction is forecast to be higher. Total construction output in 2018 was US$511 billion at 2017 prices and by 2030 the construction market in India will be worth over US$1.2 trillion in 2017 prices.

Urbanisation is a major long-run driver of construction growth in India. At present, around 33% of the population lives in urban areas. This presents huge construction opportunities in the residential sector, as the economy modernises and people migrate to cities. The government's reform program, aimed at re-shaping the country's labour markets and land laws, will be essential for continued investment in the construction sector. There is some risk of parliamentary gridlock preventing the speedy flow of reforms, but our base assumption is that reforms will take place, albeit slowly.

Economic Outlook

Headline Indian economic activity is forecast to grow by 6.4% per year over the next decade. This compares to growth of 4.7% per year in similar emerging economies in Asia. Investment is forecast to drive economic growth over 2018-30 expanding at 6.6% per annum. CPI index inflation is to rise by 4.4% per annum out to 2030, a higher level of inflationary pressure than amongst regional peers. Government investment is forecast to rise by on average 11.9% per year over the forecast period, a faster rate of public investment growth than in other comparable countries. The fiscal balance is set to improve, albeit still remaining in deficit over the next decade, progressing to -2.4% of GDP, compared to -3.7% GDP in 2018.
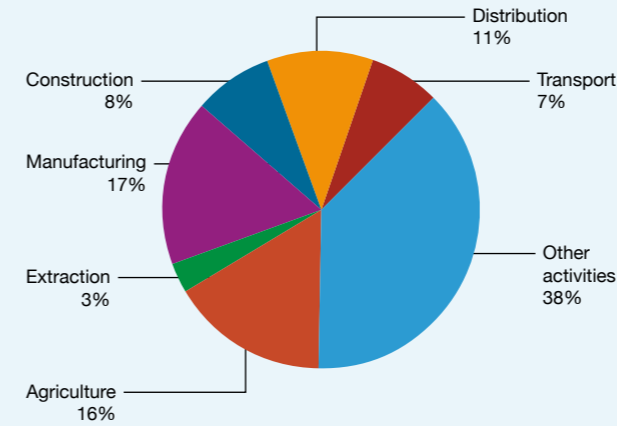
Population and Urbanisation

Total population growth is forecast to increase by 0.9% per year over 2018-30. By 2030, total population will be 1.5 billion, 150 million more people compared to today.

Within emerging Asia-Pacific countries, average population numbers are forecast to increase by 0.8% per year over the course of the 2020s.
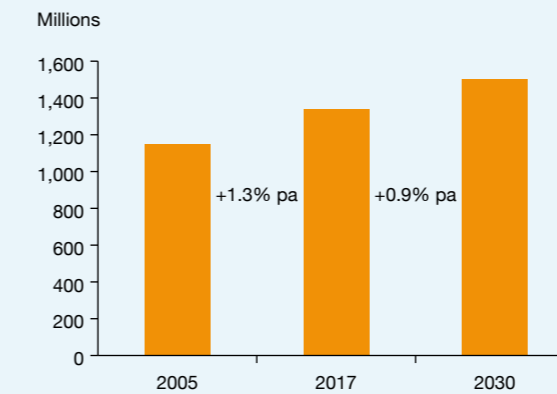
The urban population is forecast to expand at a faster rate than total population, reaching 38% as a proportion of total population by 2030. This represents an extra 116 million urban citizens over the period to 2030. The age demography of India will become less challenging over the next ten years. The working population is forecast to increase from 66.6% today to 68.4% by 2030.
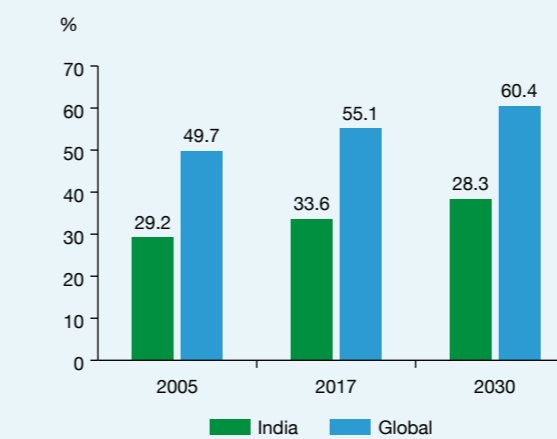
Fig. 21 Main industries in 2017 GDP

Construction 8%
Distribution 11%
Transport 7%
Manufacturing 17%
Extraction 3%
Agriculture 16%
Other activities 38%

Source: Oxford Economics, GCP

Fig. 22 Population

Millions

+1.3% pa   +0.9% pa

2005   2017   2030

Source: United Nations

Fig. 23 Urbanisation

%

29.2   49.7   33.6   55.1   28.3   60.4

2005   2017   2030

India   Global

Source: United Nations

Construction Market

India is a major developing economy with significant opportunity for large scale and strategic master planning across key sectors including the potential for major new cities. A programme of 100 Smart Cities will impact almost 100 million people in India.

The re-elected Modi government set up a task force in July 2019 to draw up ambitious plans for building infrastructure worth US$1.45 trillion over the next five years, according to a Ministry of Finance statement. The aim is to produce a 'national infrastructure pipeline' from 2019-20 to 2024-25, featuring greenfield and brownfield projects costing over Rs100 crore.

The task force will submit its report on the pipeline for FY 2019-20 by the end of October 2019, and on the indicative pipeline for FY 2021-25 by the end of December 2019.

The Ministry of Finance also said that the rail sector in the country requires US$725 billion investment between 2018 and 2030, for which it will need much greater help from the private sector.

It remains to be seen whether the government's recent announcements around 'recalibrating' PPP models currently used in India will prove successful. This could lead to a lowering of private partners' project risks, free bottlenecks in securing bank loans and speed up financial closure on planned projects. Plans are being mooted to lease out assets such as airports, roads and railways to private bidders.

It is also understood that the Modi government is looking to encourage private investment in rail station development and the operation of a select number of rail routes.

Discussions are also underway about the possibility of auctioning oil fields to private investors and 'liberalising' the mining sector to encourage private sector investment.

The new Modi government's election manifesto had pledged to double the length of highways by 2022 and build 60,000km in the next five years. However, the rising cost of land acquisition has led to a major slowdown of road construction, with just 6,000km expected to be built in 2020.

Under the ambitious Bharatmala Pariyojana programme, announced in 2017, the Modi government awarded 178 road projects with an aggregate length of 7,998 km, as of March 2019. However, this represented just 23% of the planned length of 34,800 km by 2022 under the scheme.

Phase II of the Bhararmala roads programme was announced in January 2019, with the government saying it would allocate US$50 billion for this between 2019 and 2023. Bharatmala 2.0 will feature 3,000km of expressways, including those between Gorakhpur and Bareilly, Jhansi and Raipur, and Solapur and Belgaum.
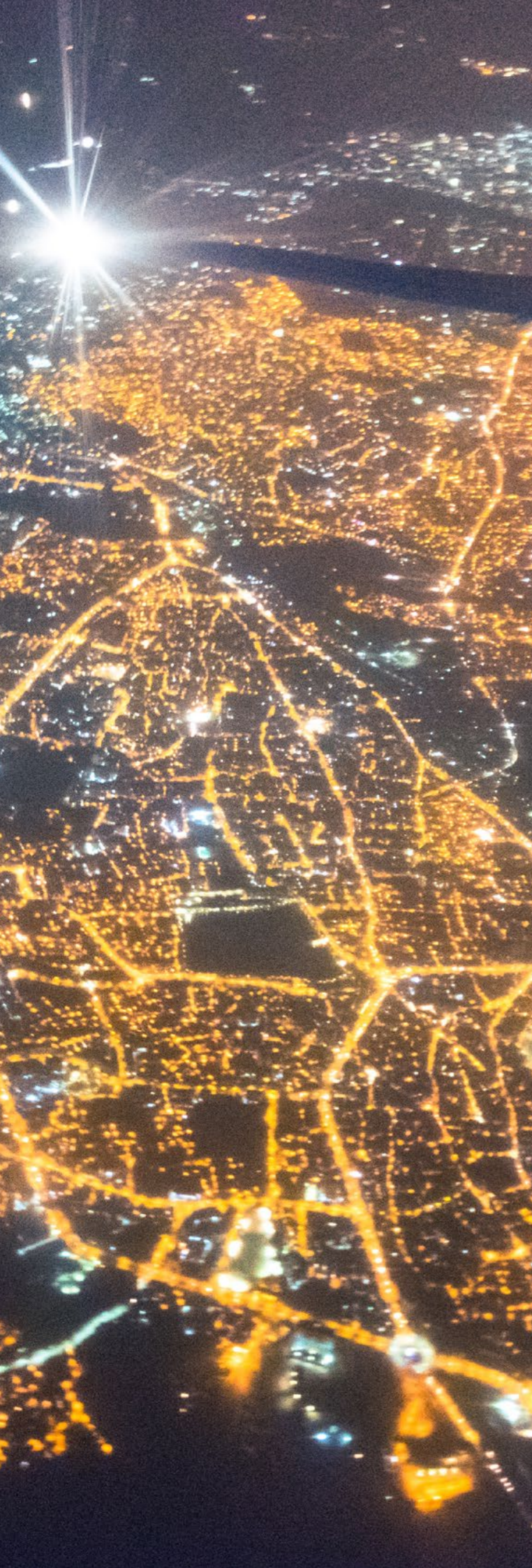
In contrast, the Pradhan Mantri Gram Sadak Yojana (PMGSY) project, set up by the government, aims to build roads to connect more rural areas across the country. Earlier this year, the government increased by over 22% its budget allocation to PMGSY, with US$2.9 billion set aside for FY 2019-20.

Air passenger and cargo traffic is forecast to rise significantly in India. To meet demand, and to transform the country into the third-largest aviation market in the world by 2025, up from the seventh-largest currently, India's Ministry of Civil Aviation announced in late 2018 that it aimed to invest US$60 billion over the next 10–15 years to build 100 new airports in the country.

This followed approval earlier in 2018, for US$735 million to expand terminals at Chennai, Lucknow and Guwahati airports.

In the rail sector, a series of high-speed lines are being planned. These include the 508km Ahmedabad to Mumbai route, costing US$15 billion, and the US$48 billion Delhi to Kolkata line.

A series of dedicated freight rail lines have been proposed too, including a 2,328km east-west route between Kolkata and Mumbai and a 2,343km north-south line between Delhi and Chennai.

Several metro schemes are either planned or underway in order to cope with increasing urbanisation in India's major cities. Plans have been approved for the 104km Phase IV extension to the Delhi Metro, at a cost of US$8 billion. Meanwhile the Public Investment Board has approved plans for two metros in cities in Uttar Pradesh - a US$1.3 billion 32km scheme in Agra and a US$2.4bn route in Kanpur.

India has 12 major ports and approximately 200 non-major ports administered by Central and State Governments respectively. Freight traffic is forecast to rise considerably in the coming years to reach 2,500 MMTPA by 2025, up from just 1,500 MMTPA currently. Under the Sagarmala Programme, the government has prepared a roadmap to increase the Indian port capacity to over 3,500 MMTPA.

At the 12 major ports, 106 port capacity expansion projects have been identified to boost capacity by 785 MTPA. In addition, a further six new ports are planned, including at sites in Vadhavan (Maharashtra), Tajpur (West Bengal) and Belikeri (Karnataka).

In January 2019, the head of India's New and Renewable Energy Ministry said that India will auction off 40GW of solar and wind capacity every year until 2028, part of the country's goal to produce 40 percent of its electricity from renewable sources by 2030, up from just 10.6% in 2018.

Installed renewable capacity currently stands at about 75GW, of which 35GW is from wind and 25 GW from solar. The government plans to up this total to 175GW from renewables by 2022, of which 100GW will be solar and 60GW from wind. An ambitious target aims to rise to 500GW of renewable energy capacity by 2030. The 5GW Tumkuru Solar Park in Karnataka is one such scheme, while the 1GW Sembcorp Wind Power Project in Madhya Pradesh aims to complete by 2022 at a cost of over US$1 billion.

In March 2018, India had 22 nuclear reactors in operation in seven nuclear power plants, with a total installed capacity of 6,780MW, providing 3% of the country's energy requirements. In March 2019, the US agreed to build a further six nuclear power plants in the country.

In December 2018, the government announced plans to invest US$300 billion in building new refineries and oil and gas pipelines in the country over the next ten years. Among the projects planned is construction of the world's largest oil refinery and petrochemical complex in the Ratnagiri region of Maharashtra, at a cost of US$40 billion.

The US$100 billion Delhi-Mumbai Industrial Corridor (DMIC) in the north-east of the country is set to expand India's manufacturing and services base and develop DMIC as a global manufacturing and trading hub. The Programme includes 24 Smart Cities, sited along the 1,483km route of a high-speed rail line for freight. This will start near Delhi and run south-west across six states towards the largest container port in India near Mumbai. Also planned are six airports as well as 23 manufacturing centres and two mega electricity generating plants as well as two ports and a six-lane expressway. The corridor claims it will urbanise 12% of India over the next 30 years with each of the 24 Smart Cities expected to house anywhere between one and three million people.

The Smart Cities programme in India is aimed at improving liveability of 100 key cities across India as a part of a Smart Cities Mission. A key objective is to ensure high quality of life comparable with any developed European city. The Smart Cities programme will cover a total population of almost 100 million urban city dwellers.

As part of plans to support the e-commerce sector in India, the government is planning a programme of building warehouses, with US$5.1 billion allocated for warehousing in the retail and consumer goods sector and a further US$1.1 billion for agriculture and cold storage.

Late 2018 saw the Uttar Pradesh government announce plans to open six pharma parks across the state. For this the government has received an investment intent from domestic and multinational pharma companies.

The 2019-20 budget saw the Indian government increase its expenditure on the education sector by 10.4%, to US$13.7 billion. Of this, US$308 million was allocated to the Higher Education Financing Agency for building quality infrastructure for higher education institutions.

Healthcare saw its planned expenditure rise by 16.3% to US$9 billion in the 2019-20 budget. Efforts to transform 150,000 primary care centres across India, including construction of new healthcare and medical facilities, received a boost when the government pledged US$200 million under the National Rural Health Mission.

India has over 500 million of its population aged 5-24, meaning it is set to enjoy a so called 'demographic dividend' in the near future.

India will need to build around 170 million new housing units by over the next 15 years (an average of 11.3 million per annum or 31,000 per day) to keep up with demographic trends.

The government's vision to provide suitable housing is spearheaded by its Housing for All plan to 2022. The government allocated US$3.8 billion to the Pradhan Mantri Awas Yojana (PMAY) scheme in their 2019 budget, which will be used to build affordable housing across the country.

Overall, the PMAY or Housing for All plan aims to see 60 million houses built by 2022 (of which 40 million will be in rural areas and 20 million in cities).

Among the large residential projects in the pipeline is the US$3 billion Dharavi Slum Redevelopment programme in Mumbai, which aims to see the construction of 59,000 new houses on a 600-acre site. The scheme was first mooted in 2004 but has gained recent momentum following backing from the UAE. There is also a proposal to construct around 5,600 flats to rehabilitate slum dwellers at four sites across Delhi, including Bhalaswa, Sangam Park and Dev Nagar.

A feasibility plan is looking at the construction of a new state capital for Andhra Pradesh, covering an area of 217 sq. km and including government buildings in a central 5.5 sq. km zone.

03

Indonesia

Fig. 24 Construction output

$bn, 2017 prices   % change

Gross output, 2017 prices (LHS)   ■ % change (RHS)
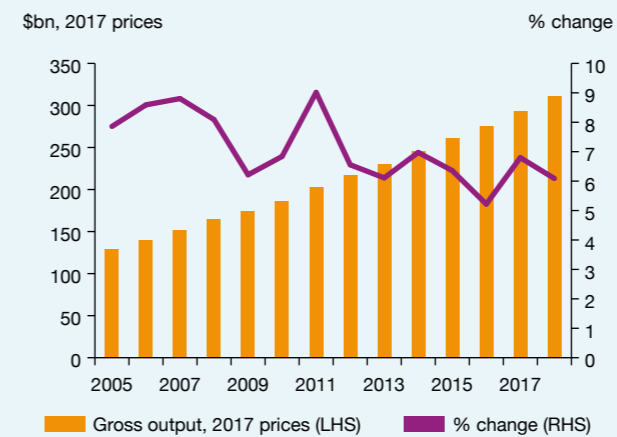
Source: Global Construction Perspectives and Oxford Economics

Fig. 25 Construction growth outlook
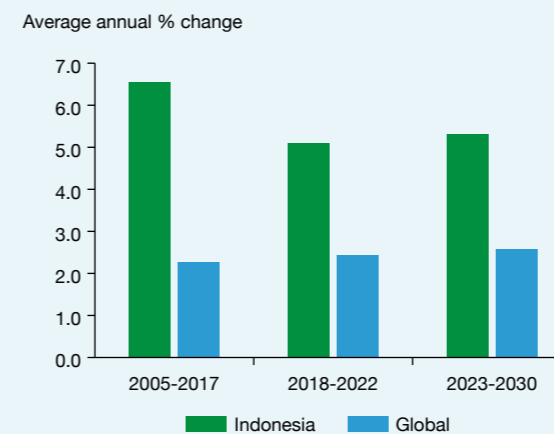
Average annual % change

■ Indonesia   ■ Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 26 GDP

$bn, 2017 prices   % change
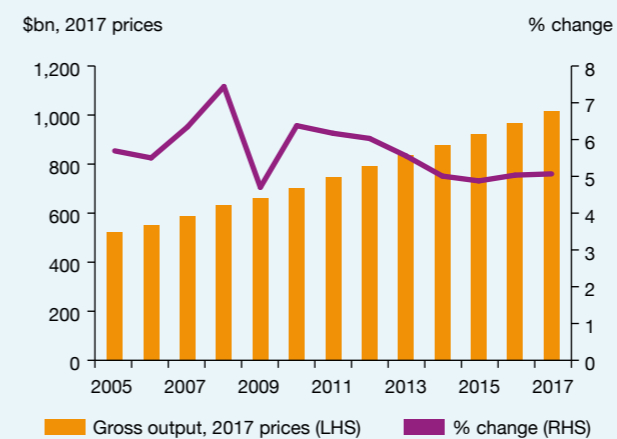

Gross output, 2017 prices (LHS)   ■ % change (RHS)

Source: Global Construction Perspectives and Oxford Economics

Indonesia

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Indonesia is set to grow at an average of 6.2% per annum over the period 2018-2030 with growth over double that of the global average. Growth in infrastructure construction is forecast to be higher. Total construction output in 2018 was US$312 billion at 2017 prices and by 2030 the construction market in Indonesia will more than double in 2017 prices.

The construction outlook over the period to 2030 remains positive boosted by the construction of infrastructure projects and the new capital city in East Kalimantan. Continued expansion of investment coupled with solid consumer spending amid a rapidly expanding middle class and improving business environments will continue to underpin Indonesian construction activity. The recently announced new Indonesian capital in East Kalimantan presents a significant boon for construction especially toward the latter part of the forecast period. That said, Indonesia's short-term growth is facing downside risks associated with the increasingly clouded outlook for the global economy amid escalating US-China trade wars. This could have a dampening effect on the construction sector.
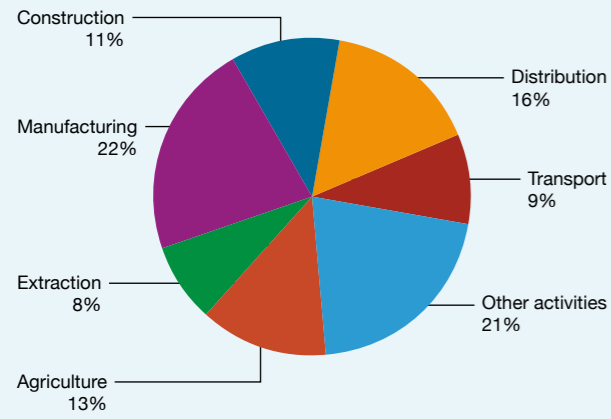
Economic Outlook

Indonesia's GDP is forecast to grow by 5% per year over 2018-30. By comparison, other emerging Asian countries will grow at a slower pace at 4.7% per annum. CPI index inflation is to rise by 3.2% per annum over the forecast horizon, a lesser rate of inflation than amongst similar economies in Asia-Pacific. Government investment will grow by 5.5% per annum over the forecast period, a more liberal expenditure program than in other emerging Asia-Pacific countries. The central government's budget balance is forecast to remain in deficit, albeit at a lesser level by 2030, ascending to -1.7% of GDP, compared to -1.8% of GDP in 2018.
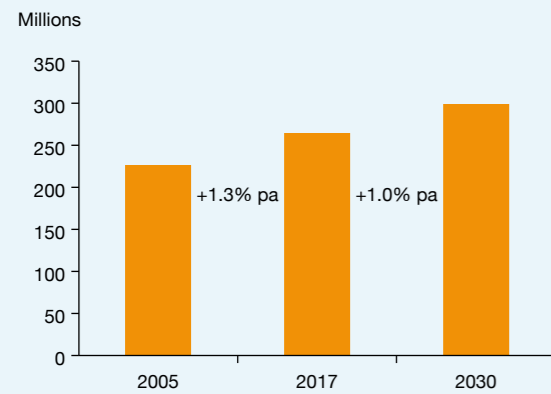
Population and Urbanisation

We forecast Indonesian population growth to increase by 0.9% per year over 2018-30. This will result in an extra 32 million people by 2030, causing the population to rise to 300 million. Across similar emerging Asia-Pacific countries, we expect average population to increase by 0.8% per year out to 2030. The urban population will expand at a faster rate than total population, resulting in Indonesia's urban population representing 64% of total by 2030. This will mean an additional 42 million urban citizens over the period to 2030. The age demographics in Indonesia will enhance over the next decade. The working population is forecast to increase from 67.4% today to 67.5% by 2030.
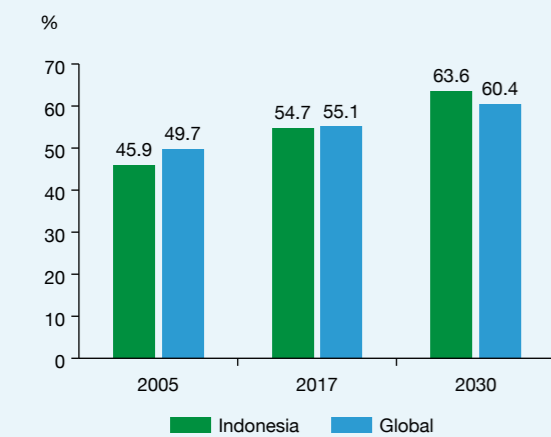
Fig. 27 Main industries in 2017 GDP

- Construction 11%
- Distribution 16%
- Transport 9%
- Other activities 21%
- Agriculture 13%
- Extraction 8%
- Manufacturing 22%

Source: Oxford Economics, GCP

Fig. 28 Population

Millions

+1.3% pa   +1.0% pa

2005   2017   2030

Source: United Nations

Fig. 29 Urbanisation

%

45.9 49.7   54.7 55.1   63.6 60.4

2005   2017   2030

Indonesia Global

Source: United Nations

Construction Market

Indonesia is a major developing economy with significant opportunity for large scale and strategic master planning across key sectors including the development of a new capital city and a planned tripling of the country's strategic road network. Indonesia is also a major beneficiary of inward investment from China and forms a key part of the Chinese Belt and Road Initiative.

In August 2019, President Joko Widodo announced that construction work would begin on transferring Indonesia's administrative capital to East Kalimantan within two years. Jakarta suffers from constant traffic congestion and dangerous air quality and there is a chance that a quarter of the city may be under water by 2025.

The plan would see a new capital city built on a greenfield site in the province of East Kalimantan where the government owns about 18,000ha of land. The project is expected to cost in the region of US$33bn, of which 19% will come from the state budget with the remainder from private investors and public–private partnerships.

A rising population and increasing urbanisation has led the government to boost the construction of affordable housing. February 2019 saw the Ministry of Public Works and Housing plans to build 635,361 housing units as part of a US$1.3 billion investment. It also announced a target to build one million houses under the Housing Loan Liquidity Facility scheme for civil servants.

Eight special economic zones are planned across the country by 2030, involving an investment of US$55 billion. The first three, in East Kalimantan, North Sulawesi and North Maluku, were announced in April 2019 and are planned to be operational by 2025.

June 2019 saw President Joko Widodo announce plans for a programme of toll-road building. He is asking the private sector to fund a US$70 billion investment in 5,400km of new highways by 2024, which would nearly triple the length of the country's current road network.

Over half of the new roads planned would be on the island of Sumatra. The government is also studying the possibility of building a bridge from peninsular Malaysia to Sumatra, and a bridge connecting Singapore to Bintan island.

The government announced plans in their 2019 budget to build 2,2770km of roads, 615km of new railway lines, four airports, and 200km of toll roads as part of a US$28.4 billion investment.

The government has pledged to spend US$40 billion on the development of transport infrastructure in Jakarta by 2029. Projects include a 120km light rail corridor and a 142km high-speed rail line between Bandung and Jakarta. The latter is considered one of the most prominent Belt and Road Initiative (BRI) projects in Indonesia. A Chinese-led consortium won the construction contract and then secured a $4.5 billion loan for the project from China Development Bank.

In June 2019, Indonesian president Joko Widodo asked China's Premier Li to set up a special BRI Fund for Indonesia. The aim is for the fund to provide loans to encourage investment in Indonesia and follows a proposal highlighting 30 projects worth around US$91 billion given to China at the recent Belt and Road Forum held in Beijing.

Indonesia is already a key beneficiary of Chinese investment, making up $93 billion, or 36%, of China's total investment across six countries in Southeast Asia's six biggest economies – Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam. The largest project is the US$17.8bn Kayan River hydropower plant.

As part of efforts to boost trade activity across Indonesia, the government is looking to construct and expand the country's ports and airports.

A US$3 billion investment is planned in the next five years at the Patimban seaport, as a part of Indonesia's plans.

A US$189 million third runway at Soekarno-Hatta International Airport, a US$150m new airport in northern Bali and a US$7 billion new airport in Jakarta.

According to government estimates, electricity demand in Indonesia is due to rise by 6.4% per year for the next 10 years. The 2019 budget for power generation capacity has increased 6.7% on the previous year, to reach US$12 billion.

Projects in the pipeline include five hydropower plants on the Kayan River in North Kalimantan, totalling 9,000MW and costing US$17.8 billion. Construction is underway on the US$10 billion Bontang Oil Refinery in Balikpapan, East Kalimantan, which is due to complete in 2023 with a capacity of 360,000 barrels per day.

Under the government's Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) Electricity Procurement Plan 2019–2028, up to 56GW of new power generating capacity is planned in the country by 2028, with 34GW of that allocated for Independent Power Producers (IPP). About two thirds of this will be for coal-fired plants.

A Japanese energy company is due to build a US$18.4bn liquid natural gas (LNG) plant in the eastern Indonesian province of Maluku. The plant, due to go online in the late 2020s, would have an annual production of 9.5 million tonnes, processing gas from the Masela reserves in eastern Indonesia.

In the leisure and tourism sector, the Treasure Bay Pesona Lagoi Bintan is a US$3.5 billion project involving the construction of an integrated water resort on 338ha of land.

04 Germany
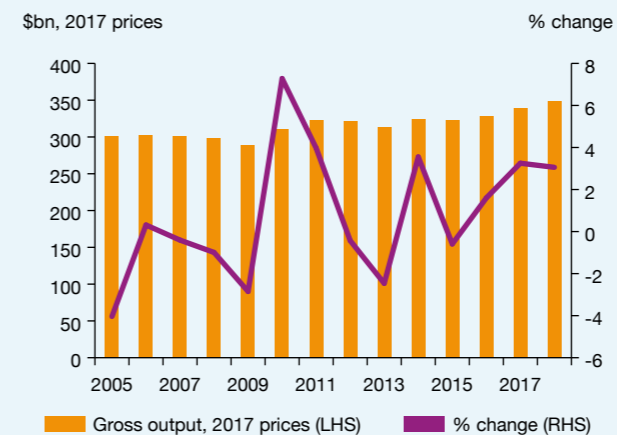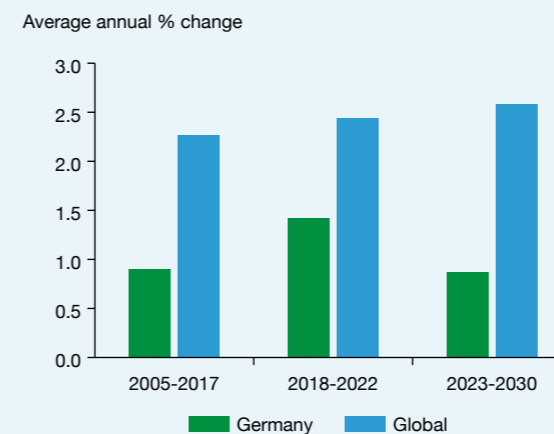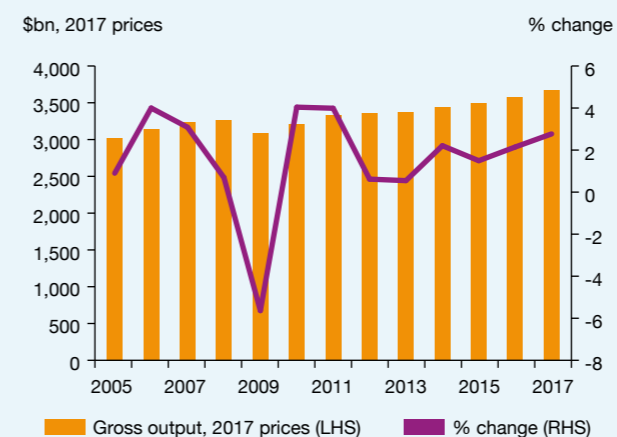
Germany

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Germany is set to grow at an average of 1.3% per annum over the period 2018-2030. Infrastructure construction is forecast to grow at a higher rate of growth to 2030. Total construction output in 2018 was US$349 billion at 2017 prices.

German construction has been on an upward cycle over the past three years. The inbound migrant wave helped to spur new construction activity as new residential and non-residential services are required. This is still impacting the construction sector on the margin. Nonetheless, the long-term outlook for German construction remains blighted by poor population growth and weak age demographics. Even in spite of the current inflow of migrants, we still expect population growth rates to turn negative by 2030. The poor current state of German infrastructure has created a huge need for repair and upgrade, and more can be done to improve the efficiency of existing infrastructure. Despite popular views regarding German infrastructure as being first rate, years of under investment have created the need for major new investment. We expect solid growth in the civil engineering sector over the next decade to meets these needs.

Economic Outlook

German GDP is set to expand by 1% per year over 2018-30. Other developed Western European countries will see GDP grow on average faster at 1.5% per year. Over the next decade, import growth is set to outpace export growth and resulting in net exports falling to $114bn in 2030, down from $186bn today. Long-term interest rates are expected to rise by 250bp to 2.9% by the end of the 2020s. The German government is forecast to increase public investments by 1.1% per year over the next ten years, a lesser rate of public investment growth than in other comparable countries in Western Europe. Nonetheless, the government balance is forecast to go negative over the next decade, reducing by 1.9 percentage points to -0.2% of GDP.

Population and Urbanisation

Total population is set to be essentially flat over 2018-30, growing by just 0.1% per annum. As a result, the German population will be 83.7 million by 2030. We forecast average populations in other developed Western European countries to increase by 0.4% per year over the next ten years. Age demography in Germany is set to deteriorate over the next ten years. The share of retired persons is set to expand as a share of total population. This works out as 2.1 million less people of working age by 2030 and causing the worker-to-dependent ratio to fall from 1.9 in 2018 to 1.7 in 2030.

Fig. 30 Construction output
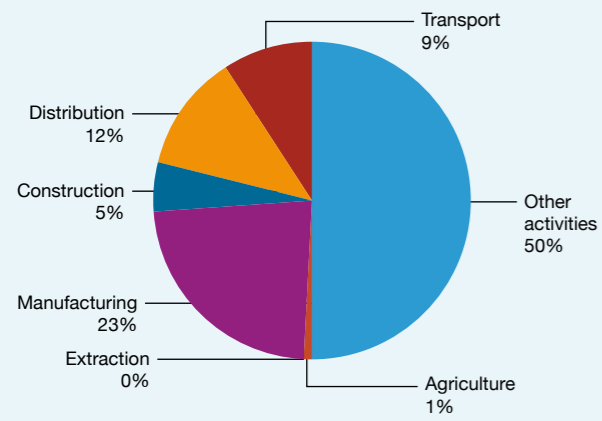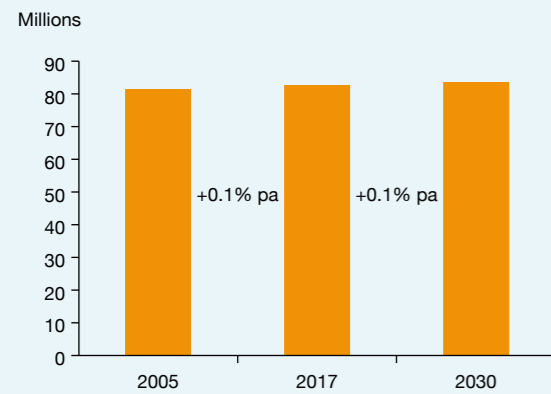

$bn, 2017 prices / % change

Gross output, 2017 prices (LHS)
% change (RHS)

Source: Global Construction Perspectives and Oxford Economics

Fig. 31 Construction growth outlook

Average annual % change

Germany
Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 32 GDP

$bn, 2017 prices / % change

Gross output, 2017 prices (LHS)
% change (RHS)

Source: Global Construction Perspectives and Oxford Economics

Fig. 33 Main industries in 2017 GDP

- Transport 9%
- Other activities 50%
- Agriculture 1%
- Manufacturing 23%
- Extraction 0%
- Construction 5%
- Distribution 12%

Source: Oxford Economics, GCP

Fig. 34 Population

Millions

2005	2017	2030

+0.1% pa   +0.1% pa

Source: United Nations

Fig. 35 Urbanisation

%

Year	Germany	Global
2005	76.0	49.7
2017	77.5	55.1
2030	78.3	60.4

■ Germany ■ Global
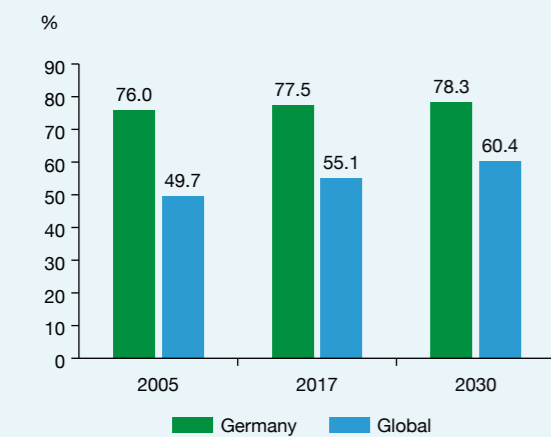
Source: United Nations

Construction Market

Germany is an advanced industrialised nation with opportunity for significant upgrade to existing infrastructure networks that will boost efficiency.

Germany's Federal Transport Infrastructure Plan 2030 was published in 2016 and included more than 1,000 projects and a value of almost €270 billion (US$298 billion). Of the total, 49.4% of the funds will be invested in road, 41.3% in rail, and 9.3% in waterway infrastructure projects. A key area of the plan is the preservation of existing infrastructure with 69% of the investment of the FTIP 2030 focused on this.

In March 2019, the German government announced plans to invest €150 billion (US$170 billion) on infrastructure, housing, digital technology and education over the next four years. The government also plans to invest US$32 billion to develop transport infrastructure in Berlin by 2035. In addition, the government's aim to expand renewable energy resources is expected to attract investments in energy infrastructure projects.

The quality of Germany's infrastructure was ranked at seven out of 140 countries in the latest Global Competitiveness Report from the World Economic Forum. This compares with France, ranked at eight, and the UK at 11. For the quality of its road network, Germany was ranked at 19 (as against France at seven and UK at 26).

However, with the road, rail and water networks gradually deteriorating and in rapid need of modernisation, pressure is rising on the government to abandon its longstanding aversion to investment in the infrastructure sector.

Germany's 33,000 km of railways struggle with dilapidated bridges and overused train tracks. The government views the 10-year plan to 2030 as the biggest railway modernisation program in Germany's history. The move will see Germany invest €62 billion (US$69 billion) over the next 10 years, with Deutsche Bahn (DB) contributing another €24.2 billion. Among the plans is the renovation of 2,000 rail bridges.

In June 2019, DB executive board presented a 10-point strategy to 2024. This includes transforming stations into modern mobility centres and doubling capacity to accommodate 40 million passengers per day.

September 2019 saw a feasibility study launched to look at plans to build a tunnel and underground platforms beneath Frankfurt Main Station to avoid long-distance trains having to reverse direction.

Currently, two thirds of intercity services in Germany pass through Frankfurt Main Station. The study, by German Rail and the Ministry of Transport and Digital Infrastructure (BMVI), will look at solutions to provide four platforms underneath the above-ground terminal station, which is currently a bottleneck. Results are due in early 2021, with the German Transport Minister suggesting the tunnel could be completed by 2036 at a cost of around €3.5bn.

The €7.6bn Stuttgart 21 project to realign Stuttgart Main Station and move it underground with through tracks has run into repeated cost and time overruns and is not due to open until 2024, three years behind schedule.

The Berlin Tram Network extension project covers the extension of the line from the central railway station (Berlin Hauptbahnhof) to Turmstraße, the extension of lines to the Eastern Railway Station (Ostkreuz), and the completion of the Adlershof-Schöneweide section, with work due to complete by 2023.

Among the road projects planned are upgrades to the A8 and A6 autobahns and an extension of the existing A49 motorway to link with the A5 motorway in the Hesse region. The A3 (Biebelried - Erlangen) route will see an upgrade of the 76km road to six lanes and operation for 30 years as part of a PPP worth €1.1 billion.

The German government's efforts to develop renewable energy infrastructure will see the country phase out all coal power plants by 2038. It plans to increase the share of renewable energy in terms of the total electricity supply from 38% in 2018 to 65% in 2030.

A Spanish developer is progressing with plans for the 476 MW Baltic Eagle offshore wind farm. Construction is due to start in 2022, with full commissioning by 2024.

Early in 2019, Germany's power and gas grid companies announced plans to construct the country's first large gas to power plant at Lingen. The 100MW hydrogen plant project is scheduled to be completed in 2023.

Meanwhile, the four German power transmission companies plan to invest a total of up to US$41 billion to develop the country's power grids by 2035. Plans include the construction of 2,600km of new high voltage direct current (HVDC) lines and 1,200km of AC lines.

The decommissioning of Germany's nuclear power stations began in 2017 and is expected to take at least 15 years. The total cost of decommissioning 17 nuclear units operating to

2011 plus another six units due to close by 2022 is expected to reach €48 billion.

In Munich, Olympia Park Stadium is to be constructed by 2021, with the €100 million project featuring a 11,500 capacity, grass-topped, indoor sports arena.

The challenges of population growth and rising student numbers mean that new school buildings and renovations of existing school estates are becoming a major focus of investment policy in Germany. Reports suggest that in Berlin alone, space for an additional 70,000 new school children will be needed by the 2024/25 school year. About €5.5 billion will be spent from 2017 to 2026 on the construction of 40 new school buildings and the refurbishment and/or expansion of existing schools.

The German government has ambitious plans to build 1.5 million new apartments by 2021. In September 2018, the government also announced a target to construct 100,000 new social flats by 2021, with an expected investment of US$5.9 billion.

The German Economic Institute (IW) recently reported that over the past three years, about 283,000 new apartments have been built nationwide, but that this only covers 80% of the demand. The IW concluded that if the gap between supply and demand is to be closed, about 340,000 new apartments would need to be built in 2019 and in 2020.

The IW estimate that demand will fall to about 260,000 apartments per year by 2025 and to about 246,000 apartments per year by 2030, mainly due to an expected drop in immigration.

Construction of 1,500 apartments is underway in the Friedenauer Hohe quarter of Berlin, due to complete in 2022 and plans are in place for the redevelopment of a former industrial area of Hamburg. The Kleine Grasbrook residential quarter will be developed over ten years, to include 3,000 homes, plus offices for 16,000 workers, shopping facilities, a primary school and children's day care centres.

05
Australia

Fig. 36 Construction output

$bn, 2017 prices   % change

Gross output, 2017 prices (LHS) ■ % change (RHS)
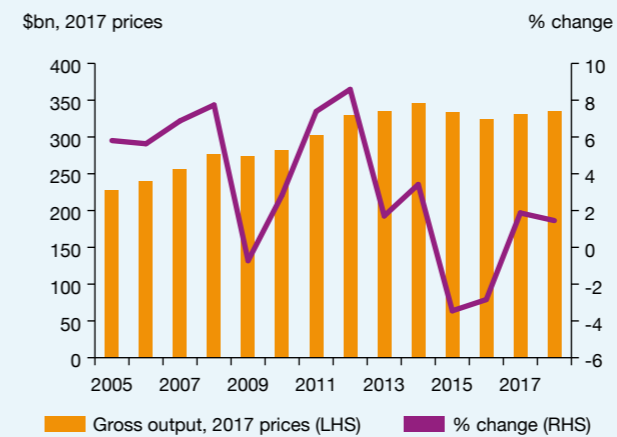
Source: Global Construction Perspectives and Oxford Economics

Fig. 37 Construction growth outlook
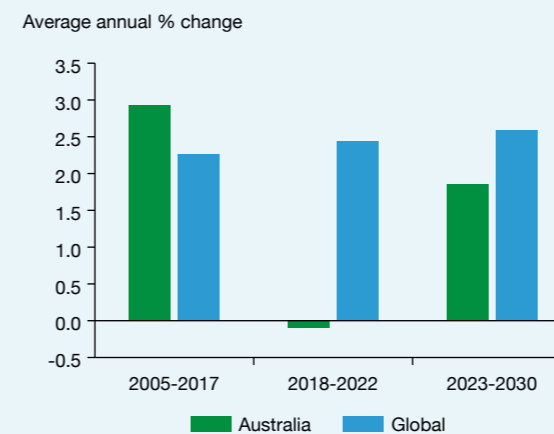
Average annual % change

■ Australia ■ Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 38 GDP

$bn, 2017 prices   % change

Gross output, 2017 prices (LHS) ■ % change (RHS)

Source: Global Construction Perspectives and Oxford Economics

Australia

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Australia is set to grow at an average of 1.3% per annum over the period 2018-2030. Civil engineering construction output for the infrastructure sector is much higher over the period to 2030 whereas residential is lower. Total construction output in 2018 was US$336 billion at 2017 prices.

The rebound in commodities prices over the past two years has provided support to the Australian civil engineering sector. Looking forward, there is a strong pipeline of infrastructure projects that will ensure ongoing robust civil engineering growth. Business optimism is seeing increased investment into the non-residential sector with the pipeline of new commercial and industrial projects healthy over the near term. Significant weakness in the residential sector will continue in the short-term, but we expect a turnaround in fortunes further in the forecast period as interest rate cuts, easing mortgage availability, and first home buyer stimulus facilitate a recovery for the residential sector.

Economic Outlook

Over the next decade, the headline economy is forecast to grow by 2.6% per year. By way of comparison, other developed economies in the Asia-Pacific will expand more slowly at 2% per year. Fixed investment is set to move in line with headline economic growth over 2018-30 expanding at 2.5% per annum. The forecast for long-term interest rates is to increase by 50bp to 3.2% by the end of the 2020s. The central government is expected to increase current levels of public investment by on average 2% per annum out to 2030, representing a more conservative program of public expenditures than among Australia's regional peers. The fiscal balance is forecast to move into surplus by 2030, climbing by 1.1 percentage points to 0.1% of GDP.

Population and Urbanisation

We expect population in Australia to grow by 1.5% per year over 2018-30. By 2030, total population will stand at 29.8 million, 4.75 million more people than in 2018.

Populations are forecast to increase by 0.6% per year on average over the course of the 2020s across other developed Asia-Pacific countries. Age demography in Australia is set to become less challenging over the next ten years.

The working population is forecast to increase from 81.1% today to 81.2% by 2030.

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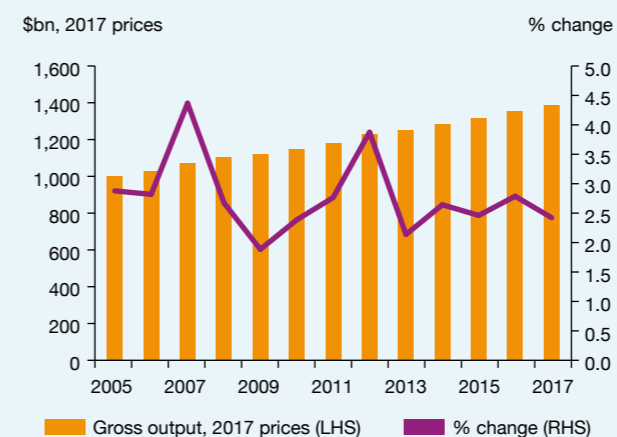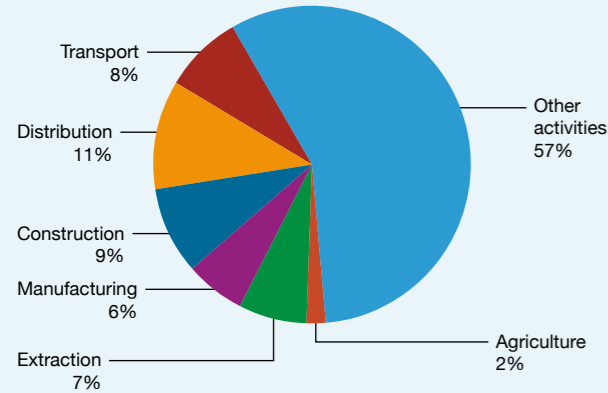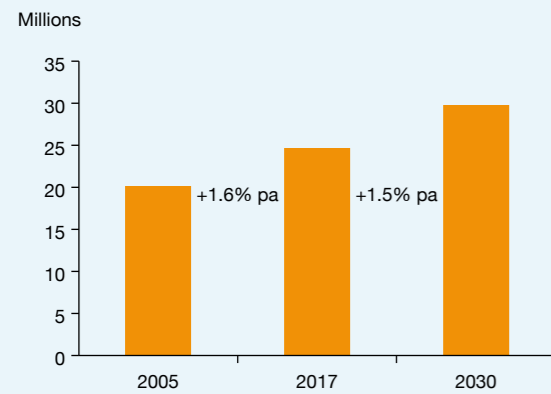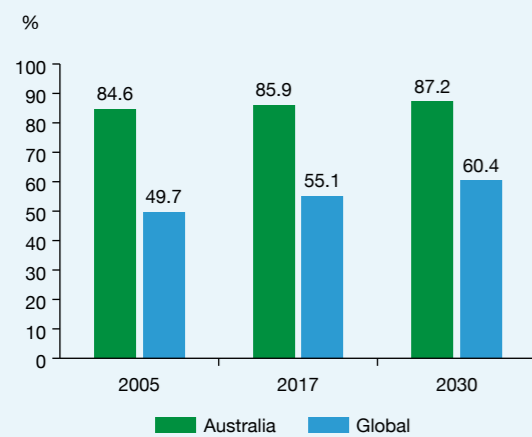
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Fig. 39 Main industries in 2017 GDP

- Transport 8%
- Distribution 11%
- Construction 9%
- Manufacturing 6%
- Extraction 7%
- Other activities 57%
- Agriculture 2%

Source: Oxford Economics, GCP

Fig. 40 Population

Millions

+1.6% pa   +1.5% pa

2005   2017   2030

Source: United Nations

Fig. 41 Urbanisation

%

	2005	2017	2030
Australia	84.6	85.9	87.2
Global	49.7	55.1	60.4

Australia ■ Global ■

Source: United Nations

Construction Market

Australia has a well-developed long-term National Infrastructure Plan and has a large pipeline of defined projects across key sectors.

Investment in transport and related infrastructure in Australia has been occurring at record levels. Infrastructure Australia's Audit report, published in August 2019, says that in order to cope with a 23.7% increase in Australia's population in the next 15 years, to 31.4 million, spending on infrastructure will need to remain high.

Much of that population growth will occur on the urban fringes of the four largest cities of Sydney, Melbourne, Brisbane and Perth, leading to increasing demand for social infrastructure such as schools and hospitals, plus improved transport links in the form of new roads and better public transport.

The Infrastructure Australia (IA) assessment of the country's future infrastructure needs highlighted that there was a committed forward pipeline of over A$200 billion of projects. The current priority list of projects has 103 schemes in the pipeline that have been identified by the states and territories as being required.

In 2017, the government launched the 10-year National Rail Program with an investment of US$7.7 billion for the period to 2027. Major rail projects planned include the US$1.9 billion Melbourne Airport Rail Link and the fourth stage of Metronet in Perth, at a cost of US$835 million.

The new Liberal-National coalition government, elected in May 2019, has promised to invest US$6.8 billion on the Inland Rail Project and a further US$1.5 billion to construct a fast rail network between Geelong and Melbourne.

Other notable investments include US$5.2 billion for infrastructure projects in Western Sydney, of which US$2.64 billion will be allocated for the Western Sydney Infrastructure Plan for road and transport connections to the new airport at Badgerys Creek and US$2.57 billion for the North-South Rail Link.

A total of US$1.2 billion is due to be provided by the government to the Urban Congestion Fund over the next four years, as part of plans to curb congestion in urban areas.

The roads sector will also see the government provide funding of US$2.9 billion for Melbourne's East West Link and US$1.3 billion for the city's North East Link.

Several airport development projects are in the pipeline too, in order to cope with the rising number of air passengers forecast. These include the A$5.3 billion Western Sydney Airport on a greenfield site near Penrith where construction is expected to be complete by 2026. The government has also pledged US$3 billion to increase capacity at Melbourne Airport from 34 million passengers annually to 65 million by 2038. Another US$125m is being spent on expanding Adelaide Airport.

The Australian government plans to reduce carbon emissions by 26–28% by 2030 compared to 2005 levels. To help with this plan, it has set an ambitious target of generating 50% of the country's total energy mix from renewables by 2025.

In March 2019, the government selected 12 energy projects, with a total capacity of 3,818 MW as part its *Underwriting New Generation Investments* (UNGI) program. Projects include gas-fired plants in East Gippsland and at Reeves Plains, a 1,000MW gas-fired power station in Gatton, a 230MW Goat Hill pumped hydro project near Lincoln Gap, and the up-grading of the 1,320MW Vales Point coal-fired power station at Lake Macquarie.

Early 2019 saw the government approve the expansion of the Snowy Hydro scheme and provide US$1 billion in equity investment. The Snowy Hydro 2.0 project will increase capacity by 2GW and expand storage capacity by providing 175 hours of energy storage.

Whilst many of the mega-liquified natural gas (LNG) plants on Australia's north west coast have started operations or are nearing completion, there is new investment following improvements in commodity prices. The Pluto LNG plant will be expanded with a second train of between 4-5 million tonnes per annum output to develop the 7.3 trillion cubic feet Scarborough gas resource. A final investment decision is expected in 2020, with Train 2 targeted to be ready for start-up in 2024.

The residential construction market has seen rapid expansion in the last few years which has led to an oversupply of housing units and a correction in the market in the last 18 months. The Australian Bureau of Statistics revealed that the total number of dwelling units approved across the country decreased by 22.1% year-on-year in the first four months of 2019, following a decline of 5.8% in 2018.

Australia's rising population, ongoing urbanisation and overseas migration inflows will mean growth in residential construction in the long term.

A 30-year plan to construct a new city, known as Merrifield, 30km north of the Melbourne city centre, is up and running and received its first 2000 residents in 2018. The US$3.5 billion masterplan features more than 8000 homes accommodating 30,000 people, a waterfront city centre precinct and 330ha business park, a regional shopping centre and a selection of schools.

In August 2018, work began on the US$3.7 billion Sydney Science Park on a 280-ha site close to the planned Western Sydney Airport. The project will be Australia's first Smart City and is due to house 100,000 residents upon completion.

Construction started in January 2019 on the A$800 million mixed-use, three-tower development, The Langston at Epping, Sydney. The project features towers of 19, 24 and 29 storeys, plus retail space.

06
Canada

Fig. 42 Construction output

$bn, 2017 prices — % change

Gross output, 2017 prices (LHS) — % change (RHS)
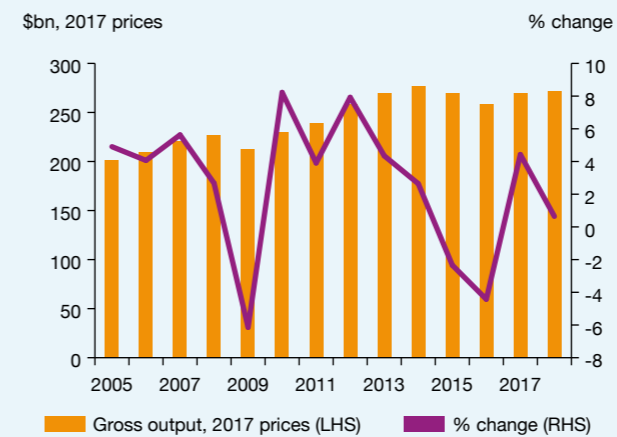
Source: Global Construction Perspectives and Oxford Economics

Fig. 43 Construction growth outlook
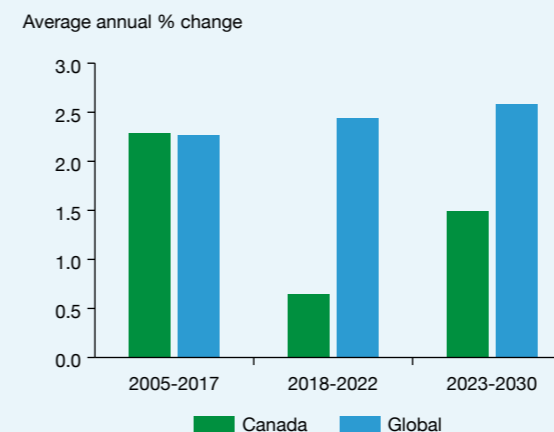
Average annual % change

Canada — Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 44 GDP

$bn, 2017 prices — % change

Gross output, 2017 prices (LHS) — % change (RHS)
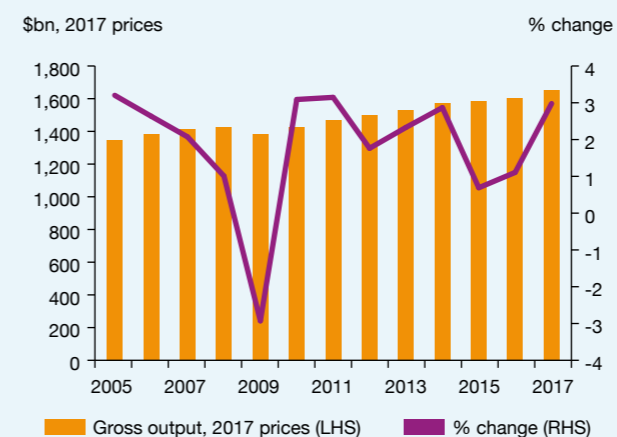
Source: Global Construction Perspectives and Oxford Economics

Canada

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Canada is set to grow at an average of 1.4% per annum over the period 2018-2030. Growth in non-residential construction is forecast to be higher whereas infrastructure construction is forecast to be lower over the period to 2030. Total construction output in 2018 was US$271 billion at 2017 prices.

The Canadian residential sector is currently witnessing a downturn as high levels of indebtedness and ongoing affordability issues are sapping new home purchases. Tighter macroprudential policies aimed at cooling the housing market in Toronto and Vancouver will also weigh on homebuilding. Over the long-term Canadian population growth remains positive compared to other developed countries. This will help drive growth over the next decade. Civil engineering construction in Canada is heavily tied to the extraction sector. Recent advances in oil sand technology has seen the cost of extraction fall, meaning that the sector is not as dependent on the oil price as it was during the 2015 oil price slump. This should help underpin new engineering construction going forward.
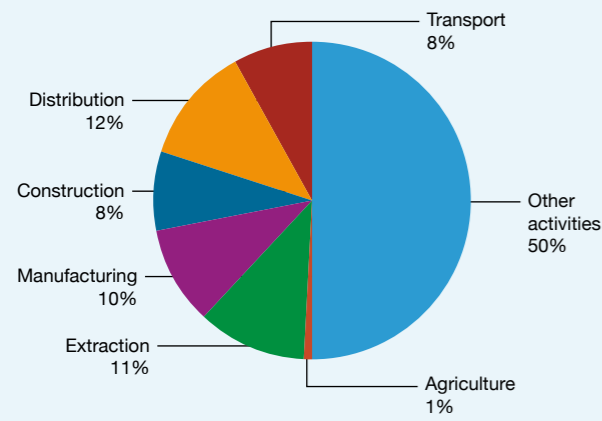
Economic Outlook

Over 2018-30, we forecast headline GDP to expand by 1.5% per year. Fixed investment spending will grow more slowly than GDP over 2018-30 expanding at 1% per annum. The forecast for long-term interest rates is to rise by 80bp to 3.1% by the end of the next decade. Government investment is forecast to increase by 1.5% per year out to 2030, a greater rate of public investment growth than among Canada's regional peers. The fiscal balance is forecast to go negative over 2018-30, declining by 1.4 percentage points to -1.2% of GDP.
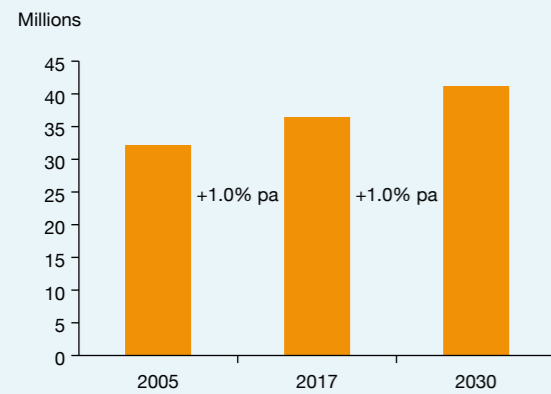
Population and Urbanisation

We expect Canadian population growth to increase by 0.9% per year over 2018-30. This means an additional 4.25 million people by 2030, taking the population to 41.3 million. The urban population is set to rise faster than aggregate population, with the result that Canada's urban population is 83% of total population by 2030. Canada's urban citizens will increase by 4.0 million over the next decade. The demographic makeup of Canada is set to deteriorate over the next ten years. Canadian population dynamics will lead to a rise in the share of retired persons over the next decade. This will mean an extra 200,000 retired persons by 2030.
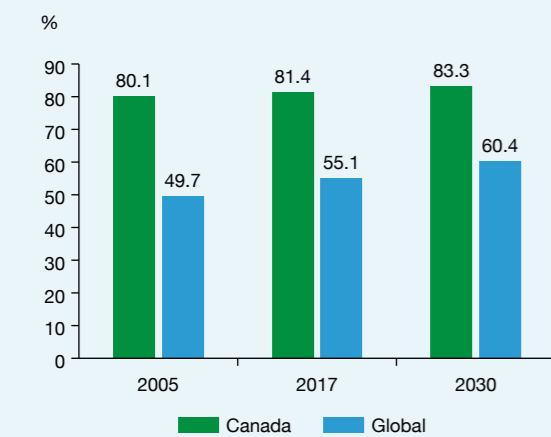
Fig. 45 Main industries in 2017 GDP

- Transport 8%
- Distribution 12%
- Construction 8%
- Manufacturing 10%
- Extraction 11%
- Agriculture 1%
- Other activities 50%

Source: Oxford Economics, GCP

Fig. 46 Population

Millions

+1.0% pa (2005–2017)
+1.0% pa (2017–2030)

Source: United Nations

Fig. 47 Urbanisation

%

Year	Canada	Global
2005	80.1	49.7
2017	81.4	55.1
2030	83.3	60.4

■ Canada ■ Global

Source: United Nations

Construction Market

Canada has a well-developed long-term National Infrastructure Plan and has a large pipeline of defined projects across key sectors.

The federal government's long-term infrastructure plan, known as the *Investing in Canada* plan, was announced in 2016 and expanded on in 2017. In total, it makes over C$180 billion (US$139 billion) available to support local, provincial, and territorial infrastructure projects over 12 years, to 2028.

The plan features 58 funding programs, organised across five main funding streams, including US$21.6 billion to support public transit projects, US$20.2 billion for green infrastructure projects, US$19 billion on social infrastructure in Canadian communities and US$7.6 billion for trade and transportation projects.

Sitting alongside the *Investing in Canada* plan is the *Transportation 2030* program, which aims to modernise the country's road, rail, port and airport infrastructure.

Rail projects include a US$955 million contract to build 11km of Light Rail Transit (LRT) lines in Toronto by 2023. Calgary City Council has approved Stage 1 of the city's new LRT megaproject. The Green Line LRT will cover 46 km and feature 28 stations. The first phase involves the design and construction of 20km of track and 14 stations.

Construction is in progress on the US$5 billion LRT in Montreal, scheduled for completion in 2023. The 67km Réseau Express Métropolitain (REM) light rail network will include 27 stations and will link Montreal's downtown to Pierre Elliott Trudeau International Airport as well as the areas north, south and west of the city.

Plans to develop a US$8.7 billion 185km high-speed rail link from Toronto to London, Ontario for 2025 and then on to Windsor by 2031 have been put on hold since April 2019 by the new state governing party which is instead looking at developing existing rail infrastructure.

The federal government is investing US$1.6 billion on the GO Transit Regional Express Rail (RER) project between 2017 and 2025. The scheme involves electrification of some parts of the network.

Plans for the US$2.9 billion Gordie Howe International Bridge will see construction of a bridge linking Canada and the US, connecting Ontario and Detroit. It will be the longest cable-stayed bridge in North America.

Construction of the final 21km leg of the Calgary ring road began in 2019. The West Calgary Ring Road section, featuring six new intersections, will run between Highway 8 and the Trans-Canada Highway and is due to complete in 2022.

A feasibility study is currently ongoing for the C$2 billion Saskatoon Freeway Project, which aims to provide bypass route around Saskatoon, as well as a commuter route for surrounding communities. The study on the 55km project is due to complete in 2021.

Vancouver International Airport has announced a 20-year plan to 2037 to upgrade its airport infrastructure. Plans cover 75 major projects including new wings to the terminal building, a new elevated taxiway over Grant McConachie Way and new parking facilities.

Estimates show that total demand for electricity in Canada is likely to rise by 1% per year until 2040. The Canadian government has said it wants to boost the installed electric power capacity in the country from 135GW in 2018 to 170GW by 2035.

Renewable energy projects will feature prominently in that expansion, with the government announcing in early 2019 that it plans to invest US$19.3 million in the country's first geothermal power plant. The 5MW project, in Saskatchewan, will generate enough energy to power around 5,000 homes.

Currently, 66% of Canadian electricity comes from renewable sources, according to the Canadian government, with much of that from hydropower plants. Solar photovoltaic capacity in Canada stood at 3,040MW in 2018, with most of it based in Ontario. However, construction approval for the Travers Solar project was given by the Alberta government in August 2019. The 400MW plant, located in Vulcan County, will be the largest in Canada and provide electricity for over 100,000 homes. Construction is due to start in 2020, with commercial operations slated for 2021.

LNG Canada finalised its investment plan in October 2018. The plan calls for construction of two gas liquefaction plants, with an annual capacity of 7 million tonnes each, in Kitimat, British Columbia. The US$30 billion project is due to start exporting LNG to Asia as early as 2024.

A 15-year refurbishment project is planned at the Bruce Nuclear Power Plant. It forms part of Ontario's Long-Term Energy Plan to 2033 and includes work on six of the Tiverton plant's eight reactors.

Also, in Ontario, the government recently announced plans to allocate US$21 billion towards the healthcare sector over the next decade, with projects featuring an extra 3,000 hospital beds in total across the state. Their largest project is the US$2 billion Windsor Mega Hospital, which will feature 500 beds, and is currently at the pre-planning stage. Meanwhile, the British Columbian government has agreed to fund US$778 million of the US$1.5 billion construction costs for a new St Paul's hospital, which is due to complete in 2026.

With the increasing severity of the immigration policy in the United States, neighbouring Canada is experiencing a rising number of international workers and students, which is forecast to drive demand for residential construction. International student numbers rose by 16% in 2018, to reach over 572,000.

As part of the Canadian *National Housing Strategy* (NHS), the government has pledged to invest US$39 billion to build 100,000 new housing units and upgrade 300,000 community housing units during the decade to 2027.

Data from Statistics Canada shows that there was a 6.8% rise to 358,878 residential building permits issued in 2018, compared with the previous year and this trend is likely to continue.

In their 2019 budget, the government allocated US$7.8 billion for the *Rental Construction Financing Initiative* (RCFI) during 2019–2027. The RCFI aims to build 42,500 units of affordable rental houses across Canada.

A decision is due to be made shortly on whether to proceed with a smart city project in Toronto. The 12-acre waterfront 'Quayside' development is a partnership between the city and Google's sister company Sidewalk Labs. However, concerns about privacy and mass data collection regarding thousands of potential inhabitants mean that the project has become controversial.

07 Mexico
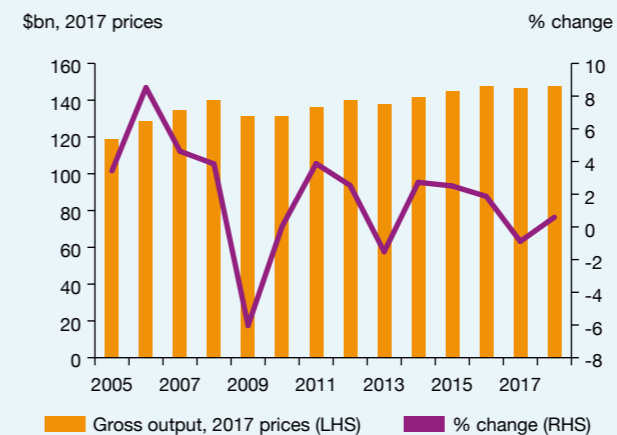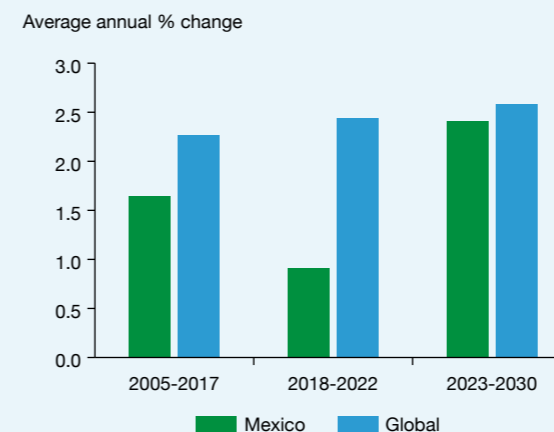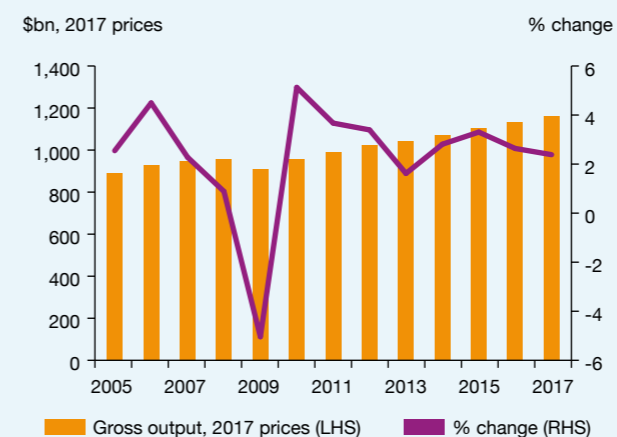
Mexico

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Mexico is set to grow at an average of 2.2% per annum over the period 2018-2030. Growth in non-residential construction is forecast to be higher at 2.9% per annum. Total construction output in 2018 was US$147 billion at 2017.

Further supply chain integration within the region, especially with the US and Canada, should boost non-residential construction and lead the sector with 2.9% average growth out to 2030. Moreover, reflecting the current administration's reluctance to engage in partnerships with the private sector, we expect infrastructure investment to see a slow start in the 2018-24 period by growing at just 0.9% per year. In the second half of the decade to 2030, growth should accelerate to 2.8% as private investment in transportation (and other areas) picks up. Lastly, still strong population growth, increasing migration flows and higher income trends will likely require a growing housing stock as the rural exodus continues.

Economic Outlook

The economy is forecast to grow by 2.1% per year over the forecast horizon. Other emerging Latin American countries will see GDP grow faster at 2.4% per annum. Investment is forecast to grow at a faster rate than GDP over 2018-30 expanding at 2.5% per year. Inflationary pressures are set to increase by 3.3% per year over the next decade, though this is still a slower rate of inflation than other similar Latin American economies. Government investment is forecast to increase by on average 3.2% per annum over 2018-30, demonstrating a more fiscally liberal approach than in other emerging Latin American countries. However, the government's fiscal position is expected to fall further into deficit by the end of the 2020s, declining to -2.4% of GDP.

Population and Urbanisation

Total population growth is forecast to increase by 0.9% per year over 2018-30 increasing population by 14,500,000 more people to 141 million. Amongst other emerging Latin American countries, we forecast average population to grow by 0.8% per year over the course of the 2020s. The urban population is forecast to expand at a faster rate than total population, resulting in Mexico's urban population representing 84% of total by 2030. This will mean an additional 18 million urban citizens over the next ten years. The age demographics of Mexico are set to improve over the next ten years. The working population is forecast to increase from 69.1% today to 71.1% by 2030.

Fig. 48 Construction output

$bn, 2017 prices / % change

Gross output, 2017 prices (LHS) / % change (RHS)
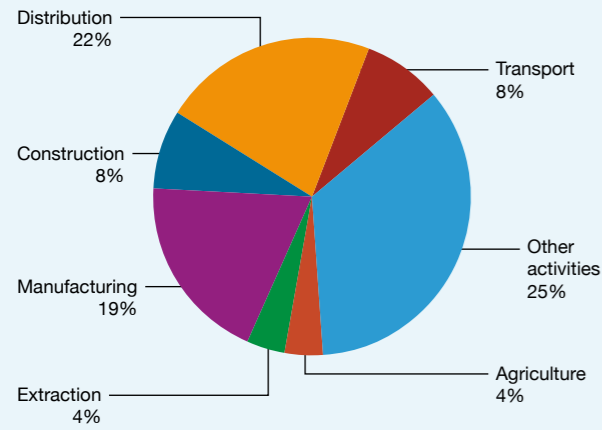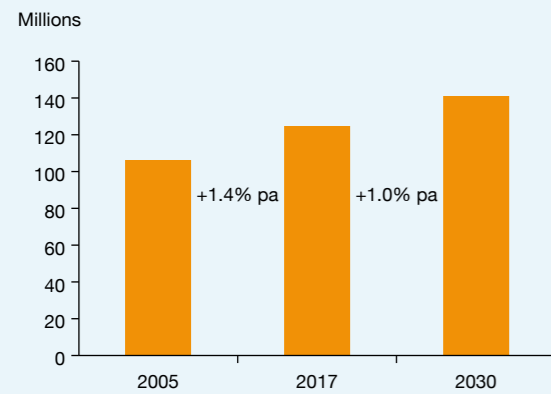
Source: Global Construction Perspectives and Oxford Economics

Fig. 49 Construction growth outlook

Average annual % change

Mexico / Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 50 GDP

$bn, 2017 prices / % change

Gross output, 2017 prices (LHS) / % change (RHS)

Source: Global Construction Perspectives and Oxford Economics

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OXFORD ECONOMICS

Pinsent Masons

Fig. 51 **Main industries in 2017 GDP**

Distribution 22%
Transport 8%
Construction 8%
Other activities 25%
Manufacturing 19%
Agriculture 4%
Extraction 4%

Source: Oxford Economics, GCP

Fig. 52 Population

Millions

+1.4% pa   +1.0% pa

2005   2017   2030

Source: United Nations

Fig. 53 Urbanisation

%

76.3   49.7   79.9   55.1   84.5   60.4

2005   2017   2030

■ Mexico   ■ Global
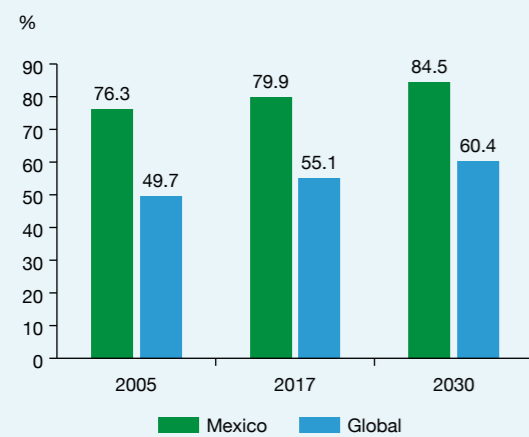
Source: United Nations

Construction Market

Mexico has a well-developed long-term National Infrastructure Plan and has a large pipeline of defined projects across key sectors.

The current left-wing populist President Andrés Manuel López Obrador (also known as AMLO) came to office in December 2018 and pledged to continue to focus on transportation infrastructure development.

However, he controversially cancelled the country's largest project at the time, the US$13 billion new airport for Mexico City, due to a mix of financial, political and environmental reasons. The decision has impacted investor sentiment in the country.

As an alternative, López Obrador pledged to add two runways at the Felipe Angeles military air base in Santa Lucia (30 miles north of the capital) in order to supplement Mexico's City's long-standing Benito Juarez airport, where a third terminal will be added. Progress has been slow.

The airport project was one of four key priority schemes flagged in AMLO's National Development Plan 2019-2024, which was published in July 2019.

Another is the Maya Train - a 1,525km rail route through the states of Chiapas, Tabasco, Campeche, Yucatan and Quintana Roo. It aims to connect the main cities and tourism sites of the Yucatan Peninsula, have 15 stations, and require an investment US$8 billion from public and private sources. In June 2019, a decision was made to shorten the route to save US$287 million in costs. Engineering studies for the project are ongoing, with contracts for the construction of the various parts of the line due in 2020.

A third key project is the development of the Tehuantepec Isthmus. This aims to modernize the Tehuantepec Isthmus railway connecting the Pacific and Caribbean coasts, together with the ports of Coatzacoalcos in Veracruz, and Salina Cruz in Oaxaca, in order to boost growth in the regional economy.

AMLO said recently that the works to expand the Salina Cruz port are ongoing and that the expansion of the Coatzacoalcos port will begin shortly. The modernisation of the rail link between the two ports is already underway. The project is seen as offering an important new trade link between China and North America.

During 2017, the Secretariat of Communications and Transportation (SCT) advanced eight port projects, including the construction of the New Port of Veracruz. This is a US$1.6 billion scheme to construct five new terminals and a major new cargo processing and logistics zone. The port will quadruple its installed capacity to reach more than 90 million tonnes by 2030.

Overall, the Plan Nacional de Desarrollo ("PND") has 25 priority initiatives, of which roughly half involve transportation infrastructure development or other types of physical infrastructure construction. There are six railway projects in total, with some being developed as Public-Private Partnerships (PPPs).

The budget for 2020 includes money for a pre-investment study on a metropolitan rail line between Querétaro and Guanajuato states, and for a suburban rail line in Nuevo León state capital Monterrey.

Meanwhile, the oft-delayed US$3.4 billion Mexico City-Toluca train project is not now due to complete until 2021 at the earliest. Construction of the 57km rail line, which is due to cut travel time between the national and México state capitals to just 39 minutes, was due to open in 2017 but has been beset by protests and construction problems.

The Mexico City metro has been in operation for 50 years, with 5.5 million passengers using the 12-line, 226km network daily. Current plans focus on maintenance of existing lines rather than any expansion projects, although extensions to line B and lines 4 and 5 are planned by 2030. A total US$905 million will be invested on Line 1 between 2020 and 2024 to purchase 30 newer and larger trains and upgrade track.

Other PND schemes include the rehabilitation of existing refineries and the building of new ones, as well as the modernisation of hydroelectric generation facilities owned by the state. The fourth key project is the Dos Bocas oil refinery - where construction is being commissioned by state oil company Pemex.

No reference is made in the PND to solar or wind renewable energy projects. Mexico currently has 4 GW of total installed solar capacity and became Latin America's largest solar market at the end of 2018. But under the new AMLO regime, the fourth round of renewable energy tenders was cancelled in January 2019.

In September 2019, Mexican energy minister Rocio Nahle García announced the tender round would probably happen and had merely been held up by the inability of power lines to cope with new generation capacity. He said that Mexico is still aiming for a 2024 target to have 35% of electricity coming from clean sources and that expanding nuclear capacity is also under consideration.

PPPs may be the basis for Mexico's future large-scale solar market. Mexico City has a 350MW plan for solar, using such a model to procure small solar parks and rooftop solar.

Recent reports suggested that there had been a 24% year-on-year fall in public sector projects in May 2019. Data showed that construction of public sector buildings such as schools and hospitals was down by 29.5% year-on-year while work on transportation and urban planning projects contracted by 62.8%.

The trend was particularly pronounced in the capital, Mexico City, where almost 500 public and private development projects — over 40% of all the projects under way — had either been halted or cancelled by the new city council over worries that many developers were flouting local laws and regulations.

The government recently acknowledged that the construction sector in Mexico had experienced contraction this year. The SHCP ministry blamed external factors, but also admitted that the reduced public spending on infrastructure was impacted by the time it took to prepare and approve pre-investment studies for new projects.

Some water projects are being proposed for next year's budget, including the construction of the El Zapotillo dam and pipeline, La Libertad dam in Nuevo León, Sinaloa's Santa María dam, and the Centenario canal in Nayarit.

In the healthcare sector, construction of a new hospital in Sonora is under consideration.

08
Saudi Arabia

Fig. 54 Construction output

$bn, 2017 prices   % change

Gross output, 2017 prices (LHS)
% change (RHS)
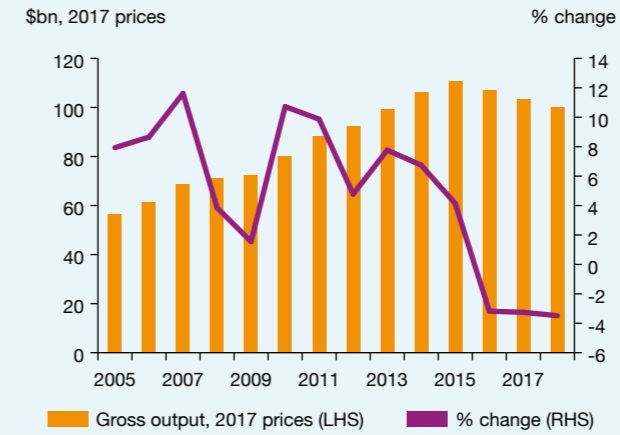
Source: Global Construction Perspectives and Oxford Economics

Fig. 55 Construction growth outlook
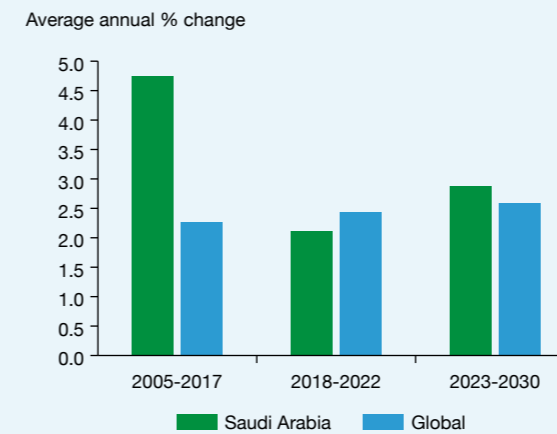
Average annual % change

Saudi Arabia   Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 56 GDP

$bn, 2017 prices   % change
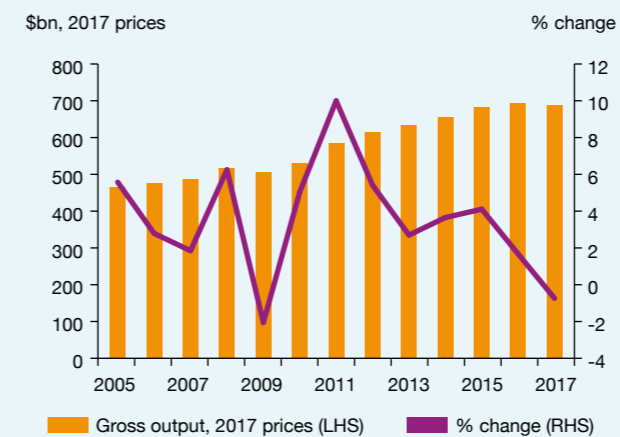
Gross output, 2017 prices (LHS)
% change (RHS)

Source: Global Construction Perspectives and Oxford Economics

Saudi Arabia

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Saudi Arabia is set to grow at an average of 3.1% per annum over the period 2018-2030. Growth in infrastructure construction is forecast to be highest over the period to 2030. Total construction output in 2018 was US$100 billion at 2017 prices.

As Saudi Arabia diversifies away from the oil sector, we expect to see increasing opportunities in the construction sector. The Saudi Arabia Vision 2030 has US$1.1 trillion of projects in the pipeline as the country seeks to reshape its economy. These include a multi-billion dollar expansion to the King Abdulaziz airport in Jeddah, building a new entertainment megacity of Qiddiya and a new eco-tourism resort on the Red Sea. Nonetheless, supply-side concerns hang over the construction outlook and the recent Royal Decree to ban the government's use of foreign consultants unless in exceptional circumstances no domestic skills are available will add further strain. A lack of construction expertise in the country will need to be overcome if Vision 2030 is to be realised.

Economic Outlook

Over the next decade, headline economic growth is forecast to increase at a rate of 1.7% per annum. Fixed investment is set to drive GDP growth over the next decade increasing by 2.5% per annum. CPI inflation is set to climb by 2% per annum over the next decade, a lesser rate of inflation than amongst similar economies in the MENA. Saudi government investment is expected to increase by 3.1% per year over the next ten years, with the fiscal balance set to move into surplus over 2018-30, ascending by 4.8 percentage points to 0.2% of GDP.
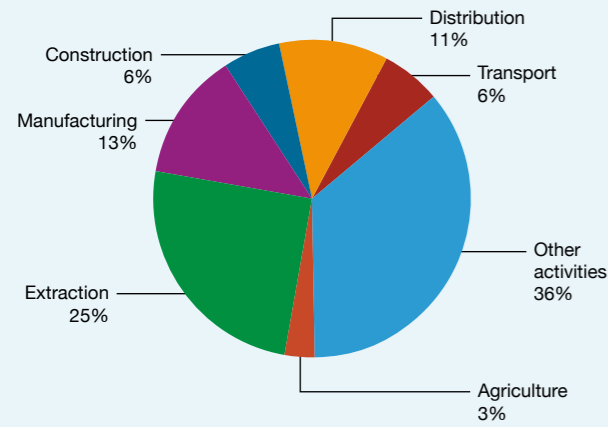
Population and Urbanisation

We forecast Saudi population growth to increase by 1.3% per year over 2018-30. By 2030, total population will be 39.3 million, 5.75 million more people compared to today. Across similar emerging MENA countries, we forecast average population to increase by 1.3% per year over the same time period. The urban population is set to expand at a faster rate than total population, reaching 86% as a proportion of total population by 2030. This will mean an additional 5.7 million urban citizens over the next ten years.
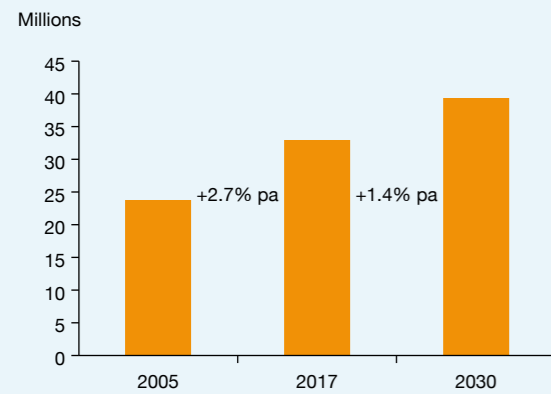
Construction Market

Saudi Arabia is a developing economy with significant opportunity for large scale and strategic master planning across key sectors including a series of 'Giga Projects' and US$1.1 trillion of projects as a part of Saudi Arabia's Vision 2030.
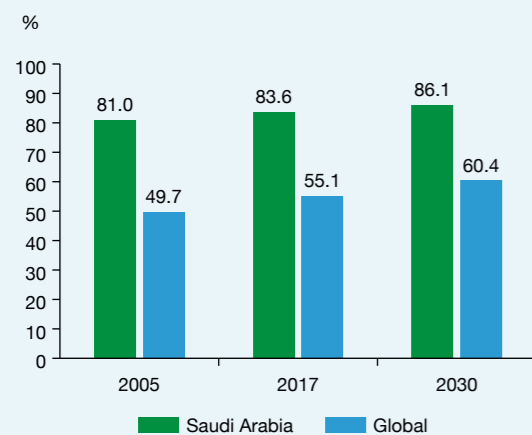
Fig. 57 Main industries in 2017 GDP

Distribution 11%
Construction 6%
Transport 6%
Manufacturing 13%
Other activities 36%
Extraction 25%
Agriculture 3%

Source: Oxford Economics, GCP

Fig. 58 Population

Millions

+2.7% pa   +1.4% pa

2005   2017   2030

Source: United Nations

Fig. 59 Urbanisation

%

81.0   49.7   83.6   55.1   86.1   60.4

2005   2017   2030

■ Saudi Arabia   ■ Global

Source: United Nations

Structural reforms and attempts to reduce the Saudi economy's reliance on the oil sector and facilitating private sector investment should lead to growth in Saudi Arabia's construction market. We expect to see investment in transport infrastructure, education and healthcare construction as well as housing.

The 10-year *National Industrial Development and Logistics Program* (NIDLP), announced in January 2019, aims to attract US$429 billion of private investment to develop the industrial and transport infrastructure of the country and reduce its reliance on the oil sector.

The Program forms a key part of the country's Vision 2030 plan, under which the government aims to increase the private sector's contribution to Saudi's GDP from 48.2% in 2017 to 65% in 2030.

Qiddiya is one of the nations planned 'Giga Projects' as a part of Vision 2030 and will be a new entertainment megacity envisioned as Saudi Arabia's new capital of entertainment, sports and arts and expected to be completed by 2030. When completed Qiddaya will be almost double the size of Manhattan.

The Saudi government allocated nearly US$19 billion in its 2019 budget towards infrastructure and transportation – up 28% on the previous year. Among the major planned transportation projects are the US$12.5 billion King Abdulaziz International Airport Expansion in Jeddah, the US$12 billion Jeddah Metro line and the US$7 billion Saudi Landbridge freight railway line, which forms part of the Saudi Railways Expansion Programme, to connect Jeddah with Riyadh.

The government's port modernisation programme aims to attract a greater percentage of trade passing through the Red Sea. In January, Saudi Ports Authority (SPA) announced that it was planning to expand the Red Sea Gateway Terminal (RSGT) at Jeddah Islamic Port (JIP). The JIP is Saudi Arabia's largest seaport, handling approximately 50% of the country's containerized volume. Work will include increasing berth capacity at JIP and modernising its operational technology.

Plans to improve Saudi's water and wastewater infrastructure has seen the government announce a target to issue up to US$7.5 billion worth of tenders for the development of water treatment plants, sewage treatment plants and desalination systems.

The government estimates that the total demand for electricity in the country is expected to increase by 8–10% annually by 2040. To meet demand, it plans to increase total generation capacity to 160GW by 2040, up from 82GW in 2017.

Renewables will be a key focus in this. The *National Renewable Energy Program* will see the government invest US$50 billion to develop 30 wind and solar energy projects by 2023 as it seeks a target of 10% of total energy needs from renewable sources by then.

Plans for two nuclear power stations were first mooted over a decade ago and the government is currently deciding on reactor contractors. Eventually, Saudi Arabia is aiming for 17 GW of nuclear capacity by 2040, enough to provide 15% of its power needs.

Rising population and urbanisation in Saudi Arabia will drive housing construction growth. The UN forecasts that the total population in the country will reach 39.3 million by 2030, up from 34.8 million in 2020 whilst urban populations are expected to rise by 4.7 million by 2030 to 86.5% of the population.

Government efforts to build affordable houses to accommodate a rising population in the country will see the Residential sector be a key market in Saudi. The government launched a new US$32 billion housing initiative in 2018 which aims to boost the level of home ownership to 70% by 2030, up from 47% in 2017.

Major mixed-use housing and urban developments in planning include the US$21.3 billion Al Faisaliah Smart City Development – a mega-city located on the Red Sea coast that will provide 995,000 housing units and accommodate 6.5m people by 2050.

Meanwhile Phase II of the Neom project is due to be announced shortly. This project comprises a new city on a 26,500km² area adjacent to the Red Sea, in the far north-west of Saudi Arabia.

An aim of attracting 30 million tourists to the country by 2030 has seen the Saudi government announce plans to invest US$64 billion to build entertainment infrastructure and will encourage private investment in hotel construction.

The Amaala resort in the Prince Mohammed bin Salman Nature Reserve, on the Red Sea coast, aims to become an uber luxury tourism destination known as the 'Riviera of the Middle East'. Planned to complete in 2028, the project covers 3,800 sq. km across three master plans, featuring a total of 2,525 hotel keys and 1,496 residential units.

Government initiatives to increase healthcare facilities is evidenced by a budget increase of over 8% to US$45.9 billion for 2019, while in education, plans have been approved for the construction of 1,600 new schools under the private partnership (PPP) model.

The government allocated 17.5% of its 2019 budget – about US$51.5 billion – towards the education sector, having already launched a 10-year initiative to modernise schools across the country with an investment US$800 million. In higher education, a potential new policy may see foreign universities able to set up branch campuses in the country.
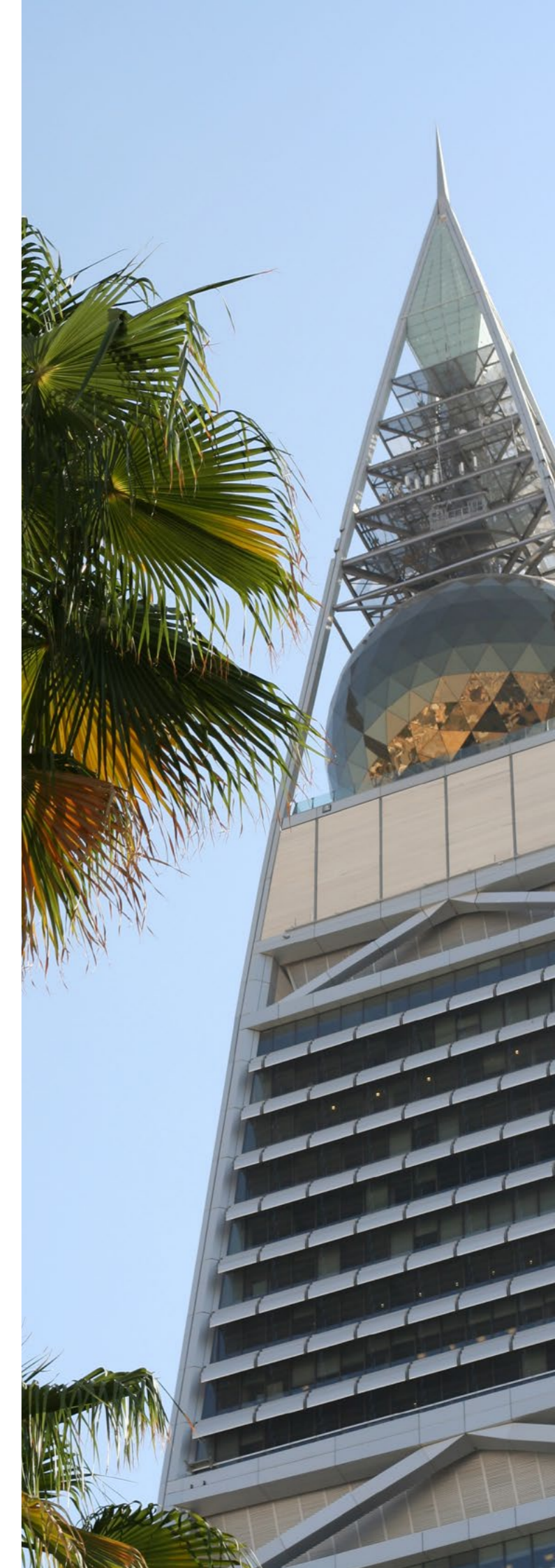
09 Malaysia

Fig. 60 Construction output

$bn, 2017 prices   % change

- Gross output, 2017 prices (LHS)
- % change (RHS)
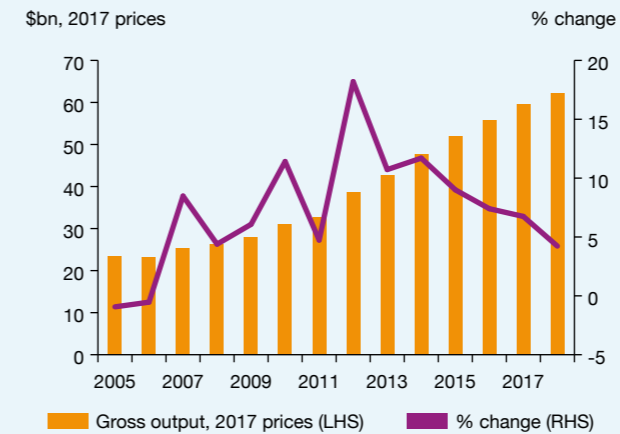
Source: Global Construction Perspectives and Oxford Economics

Fig. 61 Construction growth outlook
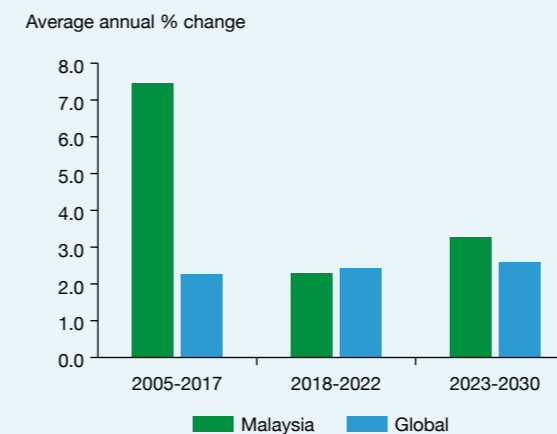
Average annual % change

- Malaysia
- Global

Source: Global Construction Perspectives and Oxford Economics

Fig. 62 GDP

$bn, 2017 prices   % change

- Gross output, 2017 prices (LHS)
- % change (RHS)
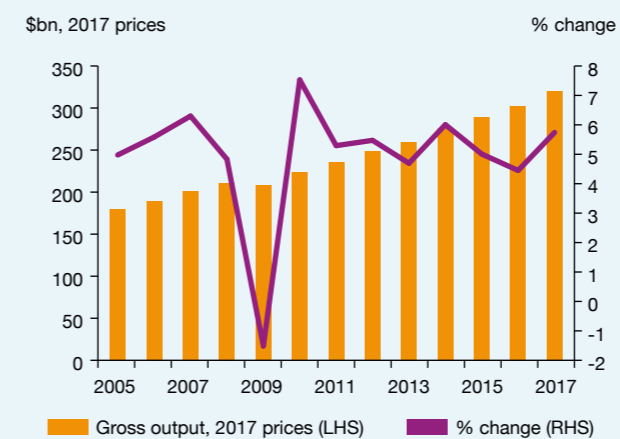
Source: Global Construction Perspectives and Oxford Economics

Malaysia

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Malaysia is set to grow at an average of 3.5% per annum over the period 2018-2030 growing marginally faster than the global average. Growth in residential construction is forecast to be slightly higher. Total construction output in 2018 was US$62 billion at 2017 prices and by 2030 the construction market in Malaysia will be worth almost US$100 million in 2017 prices.

The construction sector is expected to remain subdued in the short-term despite the government's revival of some mega infrastructure projects such as the East Coast Rail Link (ECRL) project and LRT3. The sluggish property market, led by a large volume of unsold private houses amid weak housing demand combined with a high level of office vacancies, continue to be a drag on construction investment. Nonetheless, we still expect a pickup in the latter half of the forecast period as excess capacity is gradually being absorbed amid still respectable economic growth. Furthermore, Malaysia's favourable demographics will aid longer term growth, particularly in the residential sector.
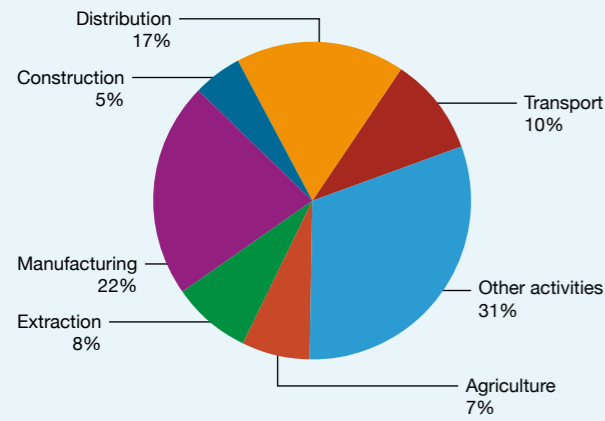
Economic Outlook

Malaysia's GDP is set to increase at a rate of 3.8% per annum out to 2030. This compares to growth of 4.7% per annum in similar emerging Asia-Pacific countries. Aggregate prices as measured by the CPI index are to climb by 2.4% per year over 2018-30, a lesser rate of inflation than amongst similar economies in the Asia-Pacific, while long-term real interest rates are expected to increase by 50bp to 4.6% by 2030. Malaysian government investment is expected to grow by 2.8% per year over the forecast period, a slower rate of public investment growth than among similar regional economies.
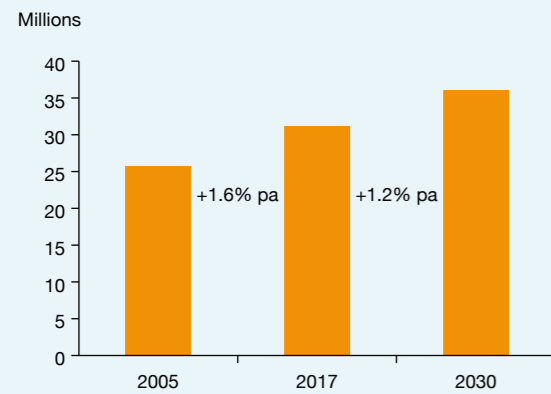
Population and Urbanisation

Malaysian population growth is forecast to grow by 1.1% per year over 2018-30. This means an additional 4.5 million people by 2030, taking the population to 36 million. Within emerging Asia-Pacific countries, we forecast average population to grow by 0.8% per year over the same time period. The urban population is set to rise faster than aggregate population, reaching 84% as a proportion of total population by 2030. This represents an extra 6.25 million urban citizens over the next decade. Malaysian age demographics will worsen out to 2030. Malaysian population dynamics will lead to a rise in the share of retired persons over the next decade. This translates to 1.25 million more retired persons by 2030 and causing the worker-to-dependent ratio to fall from 2.4 in 2018 to 2.3 in 2030.
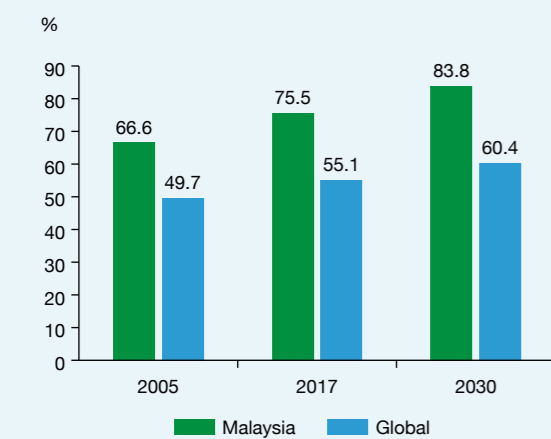
Fig. 63 Main industries in 2017 GDP

- Distribution 17%
- Construction 5%
- Transport 10%
- Other activities 31%
- Agriculture 7%
- Extraction 8%
- Manufacturing 22%

Source: Oxford Economics, GCP

Fig. 64 Population

Millions

+1.6% pa   +1.2% pa

2005   2017   2030

Source: United Nations

Fig. 65 Urbanisation

%

66.6 49.7 (2005)
75.5 55.1 (2017)
83.8 60.4 (2030)

■ Malaysia   ■ Global

Source: United Nations

Construction Market

Malaysia is a developing economy with significant opportunity for large scale and strategic master planning across key sectors including significant and large-scale transportation.

Government focus on improving the Malaysian transport infrastructure includes a plan to build the Pan-Borneo highway by 2023 at a cost of US$7.3 billion.

In October 2018, the government announced plans to construct 1,500km of rural roads across the country by 2020.

In the ports sector, a feasibility study is underway to look at the construction of a new third port at Klang in Carey Island. The project, to be located about 50km from the two existing ports in Klang, is estimated to cost RM140 billion and expected to be completed over 20 years.

The Energy Commission of Malaysia estimates that the total demand for electricity in the country will rise by over 21% in the ten years to 2026, reaching almost 21,000MW. As a result, the government pledged to build 9.2GW of new power capacity in the country by 2023 including 5.3GW gas powered capacity, 3GW of coal and 889MW of hydro capacity.

The government also plans to increase the share of renewable energy in the country's total energy mix from 2% in 2018 to 20% by 2030, and to generate 18.6GW of energy from renewable sources by 2025.

In October 2018, the new Mahathir Mohamad government announced plans to cut 15% of the total development expenditure annually, in order to reduce the country's debt. This includes reducing investment on major infrastructure projects, with the plan by the former Razak government to spend US$62 billion to build 1,256km of new rail track across the country being affected.

In September 2018, the government postponed the construction work of the 350km Kuala Lumpur to Singapore high-speed rail project until May 2020. The line will cut travelling time between Kuala Lumpur and Singapore to 90 minutes, compared with more than four hours by road. Completion is now due in January 2031.

The new Malaysian government also reviewed Chinese-funded infrastructure projects after new Prime Minister Mahathir Mohamad followed through a pledge to renegotiate or cancel "unfair" Chinese mega-projects approved by the Razak regime. The East Coast Rail Link (ECRL) was one of those affected, but in July 2019, construction restarted on the scheme, considered a key Belt and Road Initiative (BRI) project, following an agreement to cut its cost by nearly a third to $10.7 billion. The 640km line will connect Port Klang on the Straits of Malacca with the city of Kota Bharu in northeast peninsular Malaysia.

The US$5.6 billion Light Rail Transit Line 3 (LRT3) will connect two million people between Banda Utama and Klang by 2024.

In the 2019 budget, the government increased its spending on the healthcare sector to US$7.3 billion, up 7.8% on 2018. This represents nearly 10 percent of the total national budget with US$2.7 billion allocated to develop and upgrade the existing public healthcare facilities in the country.

Public budget allocations for healthcare development projects includes US$256m for two new hospital blocks for women and children wards, US$128 million for a new 200-bed cancer treatment centre, and US$128m for a 300-bed specialist clinic.

The government is also looking to work with private hospitals to expand their presence and promote the country's medical tourism sector. In the 2019 budget, the government allocated US$5 million to the Malaysia Healthcare Tourism Council to promote the country as a destination for medical tourism.

The 2019 budget saw a 6% increase for maintenance of schools across Malaysia, rising to US$163 million. A further US$25m was allocated for the upgrade of dilapidated schools.

Rising urbanisation levels and several affordable housing programs supported by the government are likely to lead to expansion in the residential construction market.

The United Nations Department of Economic and Social Affairs (UNDESA) predicts that Malaysia's urban population will reach 27.8 million in 2025 and 30.1 million in 2030, up from 23.9 million in 2017.

As part of the 11th Malaysia Plan (2016-2020), the government announced in October 2018 that it planned to build 200,000 affordable houses during 2019–2020. Just a month later, the government outlined its intention to construct 100,000 affordable houses under the Rumah Mampu Milik Johor (RMMJ) housing scheme by 2023.

Construction is underway on the first phase of the Eco Horizon mixed-use development in Penang. The project will feature over 2,000 housing units on a 230-acre site, with another 70 acres allocated for commercial development. The whole township is due to complete in 2027 at a cost of over US$1.6 billion.
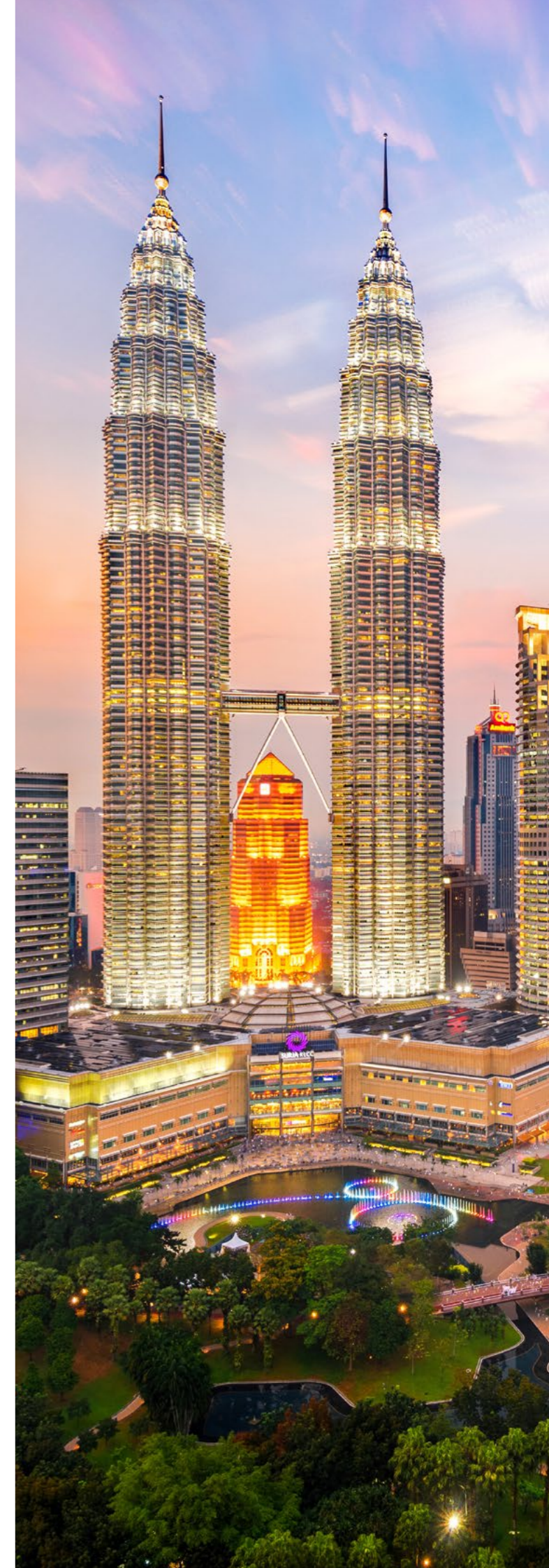
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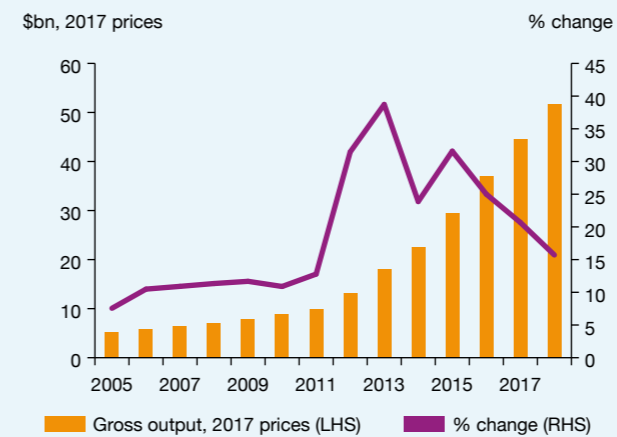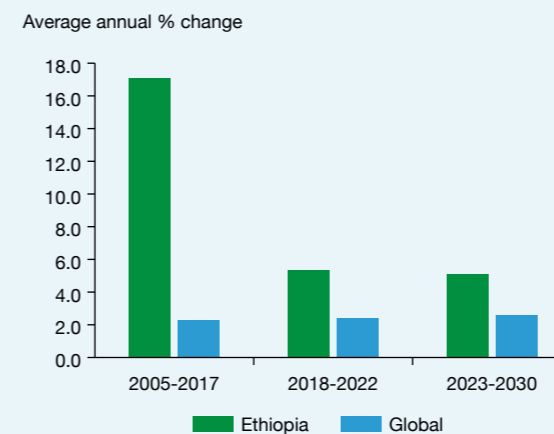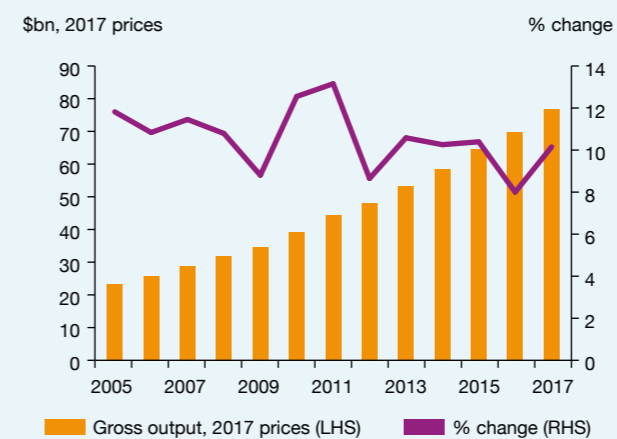
Ethiopia

Construction Outlook

Global Construction Perspectives and Oxford Economics forecast that the construction market in Ethiopia is set to grow at an average of 6.6% per annum over the period 2018-2030 which is over double the global average rate of growth over the same period. Infrastructure and residential construction are both forecast to grow at a higher rate of growth to 2030. Total construction output in 2018 was US$52 billion at 2017 prices.

Ethiopian construction is currently going through a high growth phase, witnessing continual double-digit growth over the past five years. Government expenditures into social housing programs has driven much of recent growth, though we expect the source of finance to gradually shift to the private sector over the forecast period. There is huge potential for new homebuilding as the country sees a wave of new urbanisation. Nonetheless, challenges remain in the country, not least with access to finance for local construction companies. International investor sentiment remains positive to the country and looking forward, FDI inflows will be essential in underpinning much of the new finance for construction.
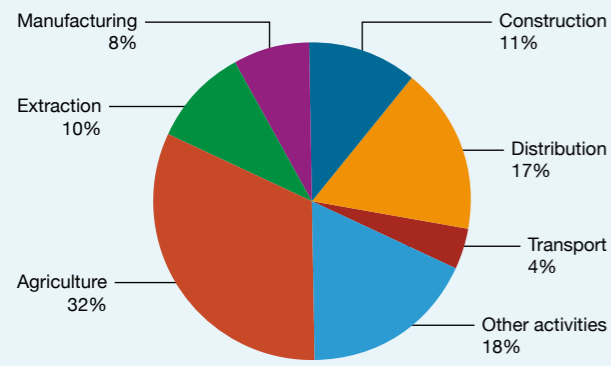
Economic Outlook

Headline Ethiopian economic activity is forecast to expand by 6.2% per year over 2018-30. This is relative to growth of 4.7% per year in comparable emerging sub-Saharan African countries. Fixed investment spending will grow more slowly than GDP over the forecast period expanding at 5.6% per year. Aggregate prices as measured by the CPI index are to climb by 7% per annum over the forecast horizon, a similar level of price increase as in comparable sub-Saharan African emerging countries. The government balance is forecast to improve, albeit still remaining in deficit over 2018-30, advancing to -3.2% of GDP, in contrast to -3.6% GDP in 2018.
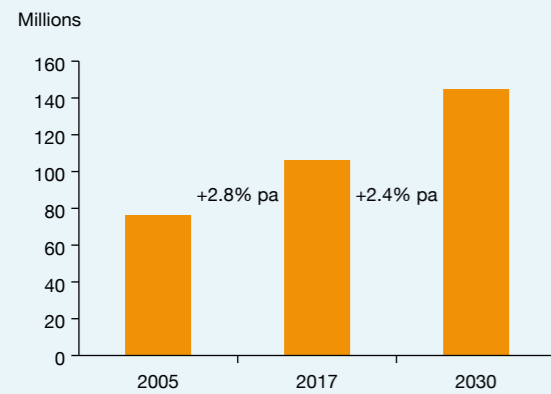
Population and Urbanisation

In Ethiopia, we expect population growth to increase by 2.2% per year over 2018-30. This will lead to an extra 32 million people by 2030, driving total population to 140 million. We expect average populations amongst other emerging sub-Saharan African countries to grow by 2.5% per year over the same time period. The urban population is forecast to expand at a faster rate than total population, reaching 26% as a proportion of total population by 2030. Consequently, Ethiopia's urban citizens will increase by 14.5 million over the next decade. The age demographics in Ethiopia are forecast to improve out to 2030.The working population is forecast to increase from 56.5% today to 61.4% by 2030.

Fig. 66 Construction output

$bn, 2017 prices — % change

Source: Global Construction Perspectives and Oxford Economics

- Gross output, 2017 prices (LHS)
- % change (RHS)

Fig. 67 Construction growth outlook

Average annual % change

Source: Global Construction Perspectives and Oxford Economics

- Ethiopia
- Global

Fig. 68 GDP

$bn, 2017 prices — % change

Source: Global Construction Perspectives and Oxford Economics

- Gross output, 2017 prices (LHS)
- % change (RHS)

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Fig. 69 Main industries in 2017 GDP

- Manufacturing 8%
- Extraction 10%
- Agriculture 32%
- Construction 11%
- Distribution 17%
- Transport 4%
- Other activities 18%

Source: Oxford Economics, GCP

Fig. 70 Population

Millions

2005 — 2017: +2.8% pa
2017 — 2030: +2.4% pa

Source: United Nations

Fig. 71 Urbanisation

%

	2005	2017	2030
Ethiopia	15.7	20.3	26.4
Global	49.7	55.1	60.4
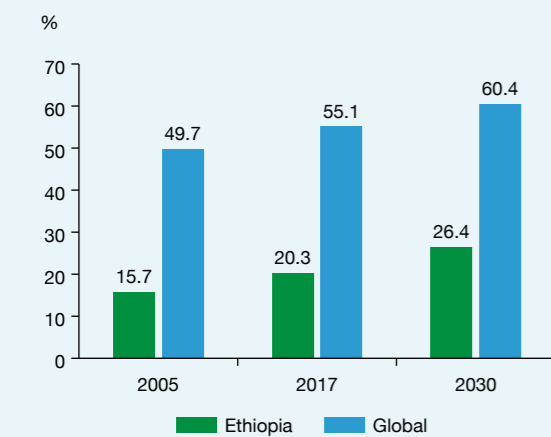
Source: United Nations

Construction Market

Ethiopia is a developing economy with opportunity for large scale and strategic master planning across key sectors including the potential for new city-wide planning.

The current Ethiopian government plans to liberalise the economy, with part or full privatisation of state enterprises in aviation, energy and telecommunications, which is widely expected to open foreign investment in these sectors.

Infrastructure is seen as a key driver of structural transformation in the country, according to Ethiopia's Growth and Transformation Plans (GTP) I and II, with both highlighting the prioritisation of public infrastructure spending.

The quality of Ethiopia's infrastructure was ranked at 120 out of 140 countries in the latest Global Competitiveness Report from the World Economic Forum, so there is significant improvement to be made. Kenya was ranked at 105, by comparison, with South Africa at 64.

For the quality of its road network, Ethiopia was ranked at 103 (as against Kenya at 61 and South Africa at 58). The GTP II target is for road density of 200km per 1,000km2 by 2019/20 and the 1,200km Mombasa–Nairobi–Addis Ababa transport corridor project, supported by the AfDB, will help meet that aim, with trade between Ethiopia and Kenya set to increase five-fold when it completes in 2020.

The Ethiopian Roads Authority (ERA) has recently signed US$489 million agreement for the construction of 9 road projects totalling to 749km across the country. Since the launch of GTP II, construction of 89 road projects have been completed, 215 are underway and a further 107, with a total length of 6,048km, are planned or at pre-execution stage.

The Ethiopian Railways Corporation (ERC) has recently invited bids from consultancy firms to carry out a feasibility study for a 1,512km Standard Gauge Railway (SGR) project between Ethiopia and Sudan. The planned route will run from Ethiopia's capital city Addis Ababa to Port Sudan on the Red Sea coast.

The Ethiopian airports sector is keen to invest on a large scale to boost airport infrastructure and support the nation's socio-economic development. The key project is the new US$4 billion airport at Addis Ababa, which is currently at the planning stage.

The US$24 billion Lamu Port-South Sudan, Ethiopia Transport (LAPSSET) Corridor, aims to link Kenya with Ethiopia, Uganda, and South Sudan. LAPSSET includes port projects, highways, railways, and oil pipeline and airport projects aimed at boosting regional integration and trade across East Africa.

In June 2019, the Ethiopian government began preliminary work on a railway line to connect the Ethiopian rail network with the Eritrean ports of Assab and Massawa. Italy said it would assist with the 736km link between Addis Ababa and Massawa, which is backed by the World Bank.

According to latest World Bank data only 44.3% of Ethiopia's 106.4 million population had access to electricity in 2017. Population in 2019 is estimated at 112.1 million. Earlier this year, Ethiopia Electric Power signed a partnership agreement with China to invest US$1.8bn in energy transmission and distribution lines across Ethiopia, linking cities and 16 industrial parks.

In late 2018, Ethiopia's new Board of the Private and Public Partnership (PPP) approved 17 major hydropower, solar and highway projects, costing US$6.5bn, for private sector involvement under the newly drafted PPP framework.

The Mekelle, Humera, Welenchetti, Weranso, Metema and Hurso Solar PV projects will add a total of 1,000MW of capacity, while five major hydroelectric plants, include two additional ones at Genale Dawa, will boost capacity by over 2GW. These projects will follow on from the controversial US$4.8 billion Grand Ethiopian Renaissance Dam Project. The 6,000MW hydroelectric plant on the River Nile will help to meet rising demand for electricity in Ethiopia, which is forecast to increase 32% per year.

Work has started recently on two large-scale geothermal projects in Ethiopia that may eventually produce 1GW of electricity at a cost of $4.4bn. The Corbetti and Tulu Moye projects may each produce up to 500MW of electricity, making them the largest independent power projects in Africa.

A Dutch health technology firm is currently building Ethiopia's first specialised cardiac hospital with funding for the €40m project coming from the Ethiopian and the Netherlands governments. Due to complete in mid-2020, the 7-storey building, built at the existing Tikur Anbessa Specialized Hospital (TASH) in Addis Ababa, will include three operating rooms, 94 beds, and full diagnostic and examination suites.

A Turkish manufacturing company is planning to invest €750m in the first phase of a major industrial park in the town of Adi Gudem in Ethiopia's Tigray province. In total, there will be 15 different factories on the 500ha site, which will be completed in three phases over the next six years and cost about €3 billion in total. The first phase will feature four factories making ceramic, granite, paper and prefabricated housing systems.

In Summer 2018, Ethiopia's Federal Housing Corporation (FHC) announced plans to build 16,173 homes in Addis Ababa at an estimated cost of around $1.2 billion. The first phase of the scheme is expected to cover about 26ha and will use land presently owned by the FHC, as well as extra land to be provided by the city council.

An educational drive being undertaken by Ethiopia's first lady Zinash Tayachew, aims to see the construction of 20 new high schools, 15 of which are already under construction.

Methodology
Balanced Scorecard and Data Definitions

In selecting the 10 priority global country markets we have developed and used a Balanced Scorecard.

We have calculated Cumulative Construction Output over a 12-year period to 2030 which we have used to give an initial ranking for each country market within each of the three broad categories. This is then supplemented with further data including GDP, population and urbanisation as well as FDI inflows and various measures of the business environment.

We have used Construction Output data from our Global Construction 2030 forecasts published by Global Construction Perspectives and Oxford Economics.

Our Global Construction 2030 data gives forecasts for infrastructure and construction to 2030 for 82 countries globally and gives forecasts of size and growth of each country market in both US dollars and LCU (Local Currency Units).

We use Gross Value as a measure for Construction Output which is effectively a measure akin to total project value rather than the GVA added by the sector. Gross Value includes the value of materials as well as professional services used by the sector.

The Global Construction 2030 data series looks back to 1995 and gives consistent data over a 35-year period. The data used is in US dollars and in fixed 2017 prices and exchange rates. If exchange rates shift over the coming decade – except to an extent they merely compensate for relative movements in construction sector prices – the real values shown in our projections will not be the best indicator of future value from the perspective of international firms and investors.

We have used economic data from Oxford Economics macroeconomic model calculated in fixed US dollars at 2017 prices and exchange rates for consistency with construction data. This data is sourced from country statistical agencies with GDP forecasts modelled by Oxford Economics.

Other data includes population as well as urbanisation sourced from UN and a range of other indicators such as Rule of Law Index and FDI inflows with the later giving an indication of support from international sources of capital. Transparency International Corruption Index and World Bank Ease of Doing Business Ranking give an indication of the challenges of operating in different jurisdictions.

We have sourced data on infrastructure rankings from the World Economic Forum Global Competitiveness Index 2018-19.

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ACE members are at the heart of delivering, maintaining and upgrading our buildings, structures and infrastructure. They provide specialist services to a diverse range of sectors including water, transportation, housing and energy.

The ACE membership acts as the bridge between consultants, engineers and the wider construction sector who make an estimated contribution of £15bn to the nation's economy with the wider construction market contributing a further £90bn.

ACE's powerful representation and lobbying to governments, major clients, the media and other key stakeholders, enables it to promote the critical contribution that engineers and consultants make to the nation's developing infrastructure.

Through our publications, market intelligence, events and networking, business guidance and personal contact, we provide a cohesive approach and direction for our members and the wider industry. In recognising the dynamics of our industry, we support and encourage our members in all aspects of their business, helping them to optimise performance and embrace opportunity.

Our fundamental purposes are to promote the worth of our industry and to give voice to our members. We do so with passion and vision, support and commitment, integrity and professionalism.

Further information

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