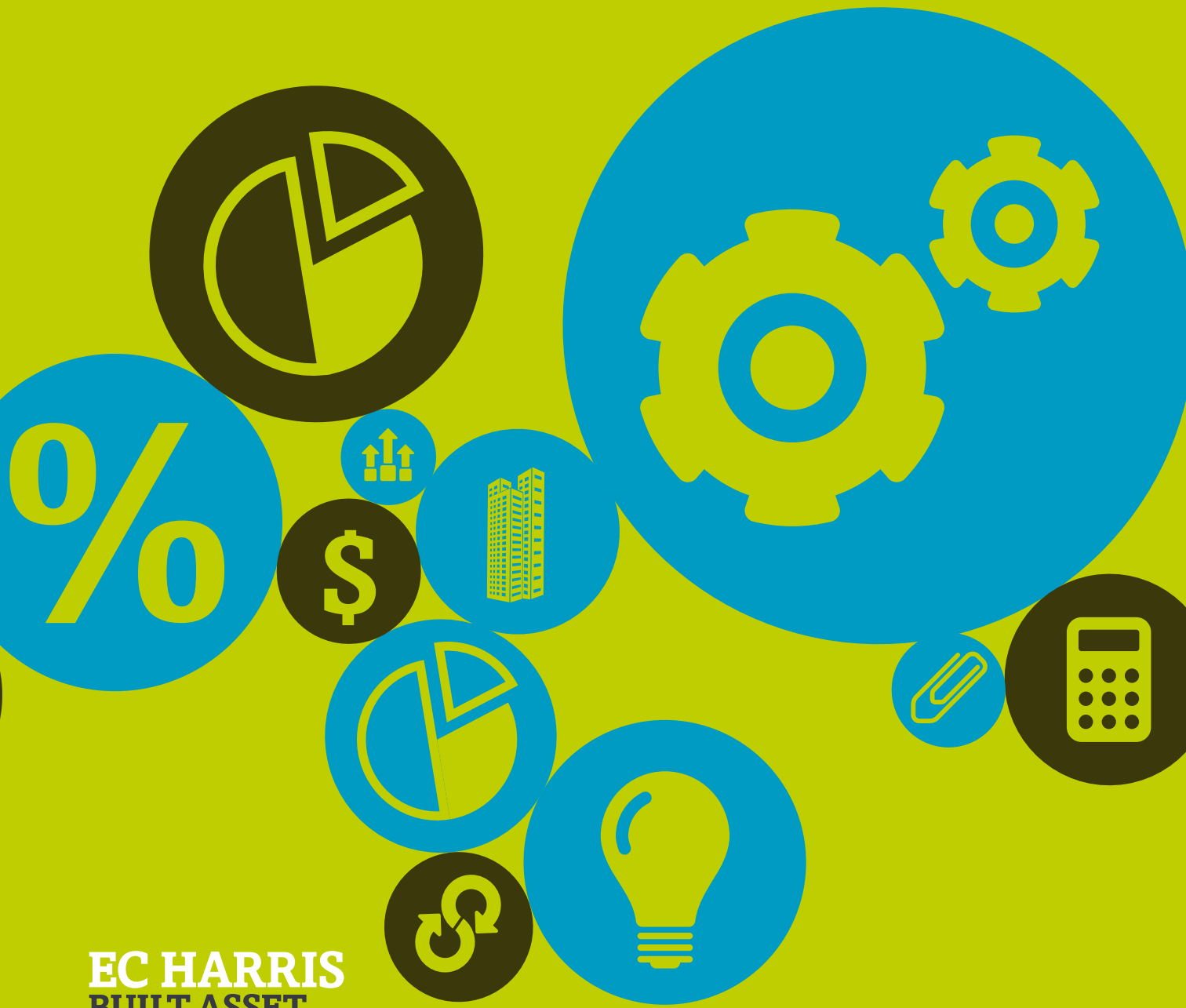
AVOIDING THE INFLATION BUBBLE QATAR CONSTRUCTION INFLATION FORECAST



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Executive Summary

Qatar is set to experience an explosion of construction activity over the next decade.

With the FIFA World Cup™ in 2022, as well as the National Vision to be delivered in 2030, the Qatari government is investing heavily in capital projects and infrastructure. By 2021, the value of the construction industry is forecast to almost double to $15 billion per annum in real terms (Source: BMI).

Growth in output on this scale is unprecedented in Qatar. This report looks at the implications that this boom could have on the cost of construction. Given the impact it will have on a combination of factors such as workload, capacity, labour, plant and materials costs. EC Harris predicts that, unless urgent steps are taken, it is predicted that construction inflation will peak at 18% per annum over the next decade. This could add billions of dollars to the cost of building Qatar's future.

However, there is time for action to be taken. This report reviews the experiences of the UAE, as well as other key countries such as Singapore and longer term trends in the UK, to highlight the lessons that can be learnt and what steps can be taken to mitigate the potential for construction inflation in Qatar. The report is based on detailed global analysis undertaken in connection with major Qatari programmes by EC Harris' Strategic Research and Insight Team.

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Qatar Market Overview

Although Qatar is one of the smallest countries in the Middle East, its economic wealth far outstrips its geographic size. The Qatari economy has seen a boom over the last 10 years, with GDP more than tripling. In addition to some 15 billion barrels of oil reserves, Qatar has proven natural gas reserves of nearly 26 trillion cubic metres, which is about 14% of the world's total and is the third largest national reserves in the world. These national resources have put Qatar at the top of the list for GDP per-capita income in the world, at $90,000 per person according to the International Monetary Fund (IMF).

The successful 2022 FIFA World Cup™ bid has certainly helped to place Qatar firmly on the world stage, but hosting one of the world's most important sporting events is part of a much wider strategy. Recognising that its significant hydrocarbon reserves will not last forever, the Qatari government has set in place a framework for delivering long-term outcomes for the country in the 'Qatar National Vision'. By 2030, Qatar aims to be an advanced society, capable of sustaining its development and providing a high standard of living for its people for generations to come. In addition to this, Qatar will, no doubt, bid again to host the Olympic Games which this investment will support.

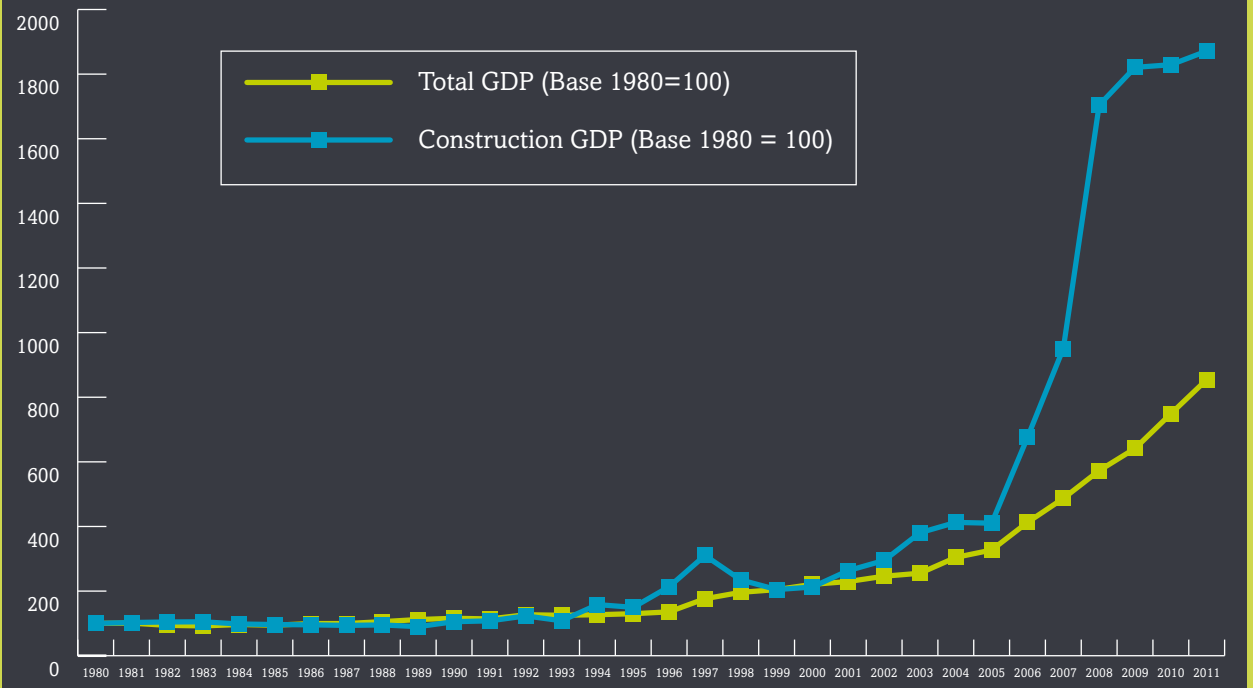
Achievement of this vision will complete the journey from a hydrocarbon economy to a "knowledge economy", through the four pillars of: Human Development; Social Development; Economic Development; and Environmental Development.

When considered in the context of this vision, the 2022 FIFA World Cup™ has certainly provided a catalyst for delivery of the Qatar National Vision. It's not just about the tournament itself - the 2022 FIFA World Cup™ will provide a unique opportunity to deliver a great legacy, as long as it is carefully planned to ensure an appropriate balance between the requirements of the tournament itself and the future use of the wider facilities. As well as setting the framework and scale to facilitate development, the 2022 FIFA World Cup Qatar™ also provides a fixed, unchangeable deadline that must be delivered to.

Construction Boom

In order to deliver both the 2022 FIFA World Cup™ and the National Vision, Qatar is investing heavily in both capital projects and infrastructure over the next decade which has resulted in Qatar's construction industry benefiting significantly from this growth. In total, Qatar intends to spend approximately $160 billion over the next decade on new projects, with the construction sector poised to expand by an average of 12% a year (see Figure 1). This will provide considerable challenges in terms of capacity, particularly given the speed of recent expansion and current available spare capacity in the GCC which is in the region of 30%.

Figure 1.



The Qatari government has reportedly allocated 40% of its budget between now and 2016 to infrastructure projects alone, and many significant programmes of work are already in the planning or construction stages.

Construction Inflation

What is it?

Contractors' market prices are made up of their input costs for labour, materials and plant, plus allowances for preliminaries, overheads, profit and risk, including cost escalation. Main contractor's prices also include the management, profit and risk allowances of the sub-contract supply chain.

Tender prices are driven by the balance of construction supply and demand. In addition to economy-wide factors such as the growth rate and inflation rate - there are other factors, such as contracting capacity, availability of specialist contractors, availability of labour, commodity prices and imposition of government regulations, all of which can have an inflationary effect on the tender price.

There is also considerable latitude for contractors to mark up or mark down prices according to their perception of the market and the state of their order books. It has been estimated that 20% to 25% of the total costs of a project are associated with allowances for on-costs, profit and risk. Contractors and their supply chain typically respond to increased activity by raising their profit margins in competitive tenders.

Due to the cyclical nature of demand for construction, construction tender price inflation fluctuates much more than economy-wide measures such as the consumer price index (CPI). In relatively small construction markets such as Qatar, the ability of the supply chain to absorb fluctuations in workload is limited. As a result, the risk of fluctuations in prices in response to workload is even greater - setting the foundation for a heightened price inflation risk.

Lessons from History

This forecast is based on an analysis of historical trends of long and short term construction inflation outside of Qatar. There are no countries whose profile is an exact match with Qatar, so in order to get a good spread of data, EC Harris's view is based on analysis of construction inflation movements in markets including the UK, UAE, Singapore and China.

Background inflation

Our starting point is that construction experiences a higher level of background inflation than other industries. This is because construction is labour intensive and relies on high levels of localised production. As a result, construction has not gained as much from globalisation compared to other industries.

When considering markets with a high level of reliance on migrant labour, our view is that consumer price inflation (CPI) in both the host country and the home nations of migrant workers will be a background factor which will drive construction inflation. As a result, inflation in India, Pakistan and other emerging markets are relevant when projecting background inflation.

Where we have construction price inflation data, it can be shown that the long term inflationary trend is in excess of CPI. In the UK, for example, the long term trend for tender price inflation, measured trough to trough is 4% per annum, whereas the long term trend for CPI over the same period is 1.8% per annum. Over the long term, this inflation premium occurs irrespective of demand conditions. There are periods of deflation, but these typically involve the return of prices back to their long term trend after a bout of super-inflation.

Based on most recent data, CPI in Qatar is currently running at 3.4%, this represents a significant upward movement in prices over the past 12 months. Consumer inflation in India and Pakistan has been high for a while and is currently running at 10.8% and 8.1% respectively (source: The Economist, February 2013). This level of background escalation underpins some of our more pessimistic inflation forecasts. It is worthwhile recalling that consumer inflation in Qatar reached 15% in 2008 prior to the global downturn – a time which saw particularly high levels of inflation in the region.

Global conditions - commodities prices

As a key input, commodity prices can have an inflationary effect on input costs. There is a high proportion of construction value associated with major structures such as stadia and infrastructure which have high commodity material content. Qatar is likely to be more vulnerable to commodity price inflation than the commercial and residential development that characterised the UAE development cycle in 2006 to 2008.

Based on an analysis of projects in Europe and the Far East, commodities and fuel typically account for 15% to 20% of the value of a project - less than management on-costs such as preliminaries, overheads, profit and risk. As a result the impact of commodities inflation, which has been very high since the middle of the last decade, has a less marked effect on overall inflation, adding approximately 0.5% to baseline inflation and 4% to boom inflation scenarios.

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Local conditions – supply and demand

Local market conditions are the principle determinant of pricing behaviour as local supply and demand has a major effect on contractor and sub-contractor pricing decisions.

Evidence for this can be seen from around the world, for example:

South East Asia: The rapid growth in construction activity in some Far East economies in the early 1990s bull market led to high construction inflation. Malaysia is apparently still experiencing oversupply of commercial and residential space in some markets as a result of projects initiated during 1993 to 1995.

UK, Europe and Middle East: Rising commodity prices in 2011 had a limited effect on local construction prices. Rapidly rising copper and steel prices barely affected prices in European and Middle Eastern construction markets. This demonstrates that poor local trading conditions were more influential in setting prices than the powerful recovery in metal prices that occurred prior to September 2011.

Labour cost inflation in 'source countries'

Domestic earnings are an important component of consumer price inflation. Labour cost indices often closely correlate to tender prices. In the UAE, wages increased by 15% between 2007 and 2008, before falling by over 35% after the peak of the boom in 2008.

Actual site labour costs in Qatar are not recorded. Given plentiful availability of expatriate labour, future labour costs will be determined by home country inflation and earnings growth as well as demand in Qatar.

In order to draw conclusions about likely wage inflation in Qatar, we can look at historic data on nominal Average Wage increases in other key markets during a period of rapid construction growth such as economies like China, India and Singapore between 1999 and 2009. Earnings in India doubled between 1999 and 2010, whilst wages in China tripled over the same period. By contrast, in Singapore, which is a highly developed economy and is also highly dependent on expatriate construction labour, wage inflation was less extreme, growing by 15% over the period 2005 to 2008.

Potential for boom conditions

Construction is known as a boom and bust industry and this volatility affects patterns of pricing. Impacts include short term capacity constraint due to low investment and the need by suppliers to maximise profits during boom periods.

For example, in the UAE, output grew in real terms by 65% in three boom years of 2005 to 2008. Over these three years, UAE tender prices rose by 63%, equivalent to a compound rate of 18% per annum. Similarly, over the past 30 years, the UK has experienced just one distinctive boom profile between 1986 to 1989 which was associated with double digit inflation levels that have not been seen since.

As construction output is set to increase dramatically in Qatar, our expectation is that there is significant potential for boom levels of inflation.

Qatar - the Construction Inflation Risk

Components of construction inflation

As summarised in the previous section, there are four main sources of construction inflation:

- Background inflation
- Global conditions
- Local conditions
- Conditions in the 'source countries' where expatriate labour comes from.

Construction inflation stages

Based on Qatar's market conditions, EC Harris has set out a series of potential construction inflation stages linked to four distinct phases of Qatar's construction programme. These are:

Dates	Stage	Characteristics	Inflation (% pa)	Risk of market failure
2012-13	Return to inflationary conditions	Where there is only background inflation as existing capacity is absorbed.	3	No
2014-15	Procurement boom	Evidence of inflation affecting baseline costs, with rising labour and material prices driven by conditions in source country and global markets. Substantial additional local inflation associated with labour and scarce commodities.	10	No
2016-19	World Cup boom	Pricing behaviour driven by local market conditions as well as availability of resourcing. Full pricing of risk by main contractors and supply chain.	18	Yes
2020-23	Return to normality	Baseline inflation only, including some labour and commodity escalation caused by conditions in source country and global markets.	6	No

Figure 2. Inflation sources - the 18% scenario

Inflation source	Inflation (% pa)
Background inflation	3
Local conditions	5
Source country conditions	4.5
Global conditions	5.5
Total	**18**

This scenario shows that construction inflation could reach a peak of 18% during the 2022 FIFA World Cup™ construction boom between 2016 and 2019, potentially adding billions of dollars to the cost of Qatar's development.

As well as this cost this could see the construction market overheat, leading to serious pressure for both the client and supply chain. However, there is time to act to mitigate this risk.

Assumptions and caveats

This inflation forecast is based on the following assumptions and caveats:

- The forecast is based on current expectations with regards to the progress of all known construction and infrastructure projects
- The forecast assumes that works will be programmed in a coordinated manner to mitigate the risks of workload peaks
- The forecast assumes that the construction work force will be readily available, but that inflation in home markets will have an impact on earnings and labour cost inflation
- The forecast assumes that rapid growth will occur in Asia and Latin America - maintaining pressure on commodity costs and energy prices. Our scenarios do not allow for a sustained energy price hike
- It is assumed that, over the forecast period, steady growth will resume in GCC states affected by the 2008 crash

The forecast excludes the effects of the following:

- Prolonged economic or political crisis in any world region
- A step change in consumer price inflation.

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Protecting Against the Potential Construction Inflation Boom

In order to deliver the Qatar National Vision 2030 and the 2022 FIFA World Cup™, there are a number of challenges that Qatar will have to overcome. Within the Qatar National Vision itself, it is recognised that such rapid growth "could deplete resources, and overstrain its economy… leading to deterioration in the quality of public services; low and stagnant labour productivity; deterioration in project quality and completion; and widening social cleavages and tensions".

The four key areas which must be addressed in order to overcome the potential for high construction inflation are:

- Capability of the existing supply chain
- Logistics, materials, plant and labour availability
- Contracts and procurement
- National programme prioritisation and scheduling

Each risk requires a proactive approach to managing the potential impact.

Capability of the existing supply chain

The issue

With such a large pipeline of construction, a key constraint will be both the capacity and the capability of the existing supply chain. Although many of the existing Qatar construction firms are currently reporting spare capacity in their order books, this will not be sufficient for the volume of construction that is forecast.

This provides an opportunity for local companies and international contractors to combine their skills to deliver these complex and technically challenging projects. Increasing numbers of large international contractors are already looking to enter the market, including significant players from the Far East.

Presently there is approximately 30% spare capacity in the Qatar construction market, and a similar amount in the wider GCC markets. With output expected to grow by 12%+ per annum, it is anticipated that the increase in the construction supply chain will need to ramp up quickly.

Possible solutions

Qatari authorities will need to monitor barriers to entry for new companies to ensure that these do not become a limiting factor on future capacity. Close monitoring of the supply chain will also be required to ensure that companies do not become overstretched and at risk of failing to deliver to programme or quality. Category management techniques can be used to build this detailed understanding of the performance and stability of the supply chain.

Another consideration will be the structuring of contract arrangements for some of the mega-projects and programmes of work that are currently forecast. Local contractors who are not accustomed to delivering US$100 million projects will need to consider carefully how they develop the resources and operating models necessary to be able to deliver these large programmes.

Joint ventures are a common approach to building large programme capacity in the region, and should be encouraged through an appetite and capacity building process.

As with the rest of the global construction industry, contractors active in Qatar will remain very reliant on their supply chain. Building strong relationships with reliable sub-contractors - in Qatar and internationally will be an important mitigating strategy - enabled by early sub-contractor involvement in project planning.

One of the objectives of the 2022 FIFA World Cup™ is to support the development of regional enterprises, particularly SMEs. Whilst the volume of production may not make a significant impact in terms of the overall resulting inflation figure, there are important services that could ease some of the localised capacity issues, such as the establishment of more fabrication and assembly capability, provision of specialist technical services and the just in time assembly of higher value plant and equipment.

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Logistics, materials and labour availability

The issue

Whilst the compact nature of the 2022 FIFA World Cup Qatar™ is a compelling proposition to FIFA, the players and their fans, it also presents a number of logistical challenges for the movement of materials, labour and plant within Qatar itself.

It is widely recognised that availability of sufficient materials and labour, and the logistics of getting them to the right place at the right time is likely to be a significant challenge in Qatar. Early assessment of the impact of logistical requirements shows that as a result of recent investment in air and seaport infrastructure, there is sufficient freight capacity planned, however it is due to come on stream at different times in relation to the demand peak and may not be configured sufficiently to deal with the high proportion of bulk materials. Also, distribution routes within Qatar and road links to Saudi Arabia have the potential to create bottlenecks in the supply chain and delivery infrastructure.

As construction productivity increases, the demand for tens of thousands of additional labourers will become apparent, so this issue should be considered from both an entry visa perspective and accommodation and welfare perspective.

If the forecasts for the scale of construction in Qatar are correct, the construction materials market could be $6 billion to $9 billion over the next two to three years. At these figures, the infrastructure investment in Qatar is likely to drive the demand for building construction material industries throughout the Cooperation Council for the Arab States of the Gulf (GCC) region and beyond. As Qatar has limited locally developed resources other than hydrocarbons, most construction materials other than cement and rebar need to be imported.

Possible solutions

In order to guarantee certainty of delivery, a strategic approach to supply chain management will be essential.

Logistically, there will need to be a careful balance between construction vehicles and general traffic to avoid gridlock in urban areas. This is particularly relevant bearing in mind the level of investment in improving the existing roads themselves, creating the likelihood of further disruption. A centrally managed logistics strategy will make the most effective use of transport resources – also managing carbon emissions effectively.

It is clear from the above that the availability of key materials such as steel, reinforcement aggregate and cement will require a coordinated approach to supply chain and logistics issues at a national level to avoid local competition for scarce commodities driving inflation. Procurement Category Management focusing on specific types of materials and their associated supply chains will help to deliver this overall management framework.

Although the global financial crisis has meant that materials, plant and machinery are now more widely available, careful planning will be required to allow the supply chain to ramp up with certainty - be it in the sourcing and provision of plant and materials or the construction of new facilities in Qatar to meet the additional demand.

As it is clear that the quantum of labour that will be required to meet the projected demand does not currently exist in Qatar, it is of critical importance that careful consideration is given in relation to the locations, scale and welfare quality of labour camps. In order to mitigate additional contractor set up costs it would be beneficial for a Qatar wide solution to be in place and that these facilities be built in advance of the demand.

Two other means of mitigating this impact would, firstly, be the wider use of local or recycled content within construction is a way of alleviating the demand for imported materials such as aggregates for concrete, bitumen for asphalt and scrap metal for steel. Secondly, capacity loads could be smoothed through coordinated forward buying of relatively standard and easy to store material such as aggregate.

Contracts and procurement

The issue

In many markets, procurement strategies are evolving to apportion risk elements more evenly across all construction stakeholders and are evolving towards more collaborative, non-adversarial ways of working. The 2012 Olympics in London was an outstanding example of this approach.

Especially in markets where "boom" conditions apply, to mitigate financial risk, fixed price lump sum contracts are being replaced by those contracts procured on a best value principle to deliver a high quality, cost effective scheme through an open book approach. These can involve the client taking on a greater level of risk – albeit without having to pay a premium for the risk transfer.

Possible solutions

There are many ways to limit the Clients' exposure to cost overrun/escalation in such contract arrangements. Certain aspects of the contract, such as the Main Contractors Fee, can be ring-fenced to ensure that for any cost over runs on materials, and sub-contract award packages no additional mark-up is paid.

Main Contractors Preliminaries can be fixed for the programme duration, limiting the Client to escalation on staff rates, plant etc as all rates are fixed for the duration. Fluctuating prices can also be based on agreed indices, such as commodity price series – creating the potential for the client to hedge risks on financial markets.

National programme prioritisation and scheduling

The issue

The FIFA World Cup™ in 2022 offers a 'hard stop' deadline for many of Qatar's projects which means that there is limited room for programme smoothing of essential projects. Indeed, many projects will need to be in place well before 2022.

Possible solutions

Whilst some major projects may need to be re-scoped or deferred until after the tournament, a wider re-timing exercise will need to take place in order to shift as much construction away from the anticipated peak construction period and into the post-tournament construction period. This activity would require programme planning coordination between all the key public and private developers and a centralisation of decision making related to programme interdependencies and timings.

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$6 billion – $9 billion

over the next two to three years."

Summary

This report has analysed the current and projected dynamics of the Qatar construction market as it delivers the 2022 FIFA World Cup™ and National Vision. Such a level of development over a relatively short period of time does have risks, with a boom in construction inflation and an overheated market being two.

The good news is that there is time to mitigate this risk by undertaking a proactive approach to the problem. By acting now, Qatar will continue on its trajectory to become a country with world class infrastructure for many generations to come whilst also enjoying its time in the global spotlight when the 2022 FIFA World Cup™ comes to town.

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