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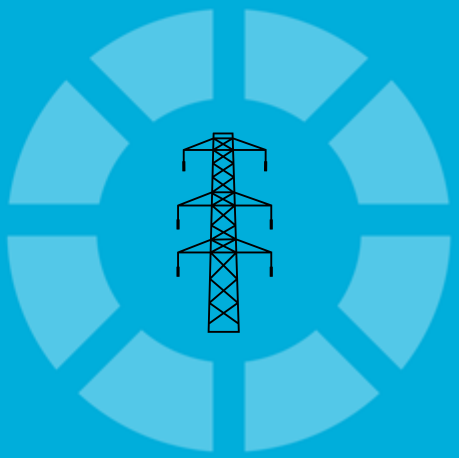
IRAN

INFRASTRUCTURE REPORT

INCLUDES 10-YEAR FORECASTS TO 2023



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Iran Infrastructure Report Q1 2015

INCLUDES 10-YEAR FORECASTS TO 2023

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BMI Industry View

BMI View: *We reiterate our view that the Iranian construction industry will pick up momentum in the short-to-medium term, with growth forecast to average 3.6% over the next five years. While this is highly dependent upon the outcome from negotiations with the West over the nuclear programme, the market is already showing signs of recovery and interest from international firms is on the rise.*

The Islamic Republic remains a country of pronounced risks, including political instability, economic challenges and social tensions, and we believe the current situation is unsustainable in the long term. Despite elevated oil prices, US energy sanctions and the EU oil embargo have affected Iranian oil production and consequently the economy at large. With the oil and gas industry accounting for an estimated 70% of the country's total exports, the government has been forced to cut public spending, with a devastating impact on infrastructure development.

Key Trends And Developments

- Although we estimate construction industry growth to have been 1.4% in 2014, we expect the industry to pick up momentum in the short- to medium term, growing at an average rate of 3.6% over the next five years.
- A 'permanent' agreement between the P5+1 countries and Iran on the Islamic Republic's nuclear programme will not be reached in 2015. Significant technical and political challenges remain, but we expect nuclear talks will continue throughout the year.
- Our Country Risk team forecasts real GDP growth of 2.8% and 2.9% in 2014 and 2015 respectively, from a 2.9% contraction in 2013. The return to growth will be the result of improving relations with the West, more effective macroeconomic management and low base effects.
- In the residential sector, we believe that housing prices will remain relatively elevated over the coming quarters, largely a result of a lack of appropriate housing units. Although we are confident that the current administration will succeed in encouraging private sector companies to increase the offer of housing, contributing to a gradual decline in costs, the effects of such policies will be felt only after a few years.
- Apart from Chinese and Russian companies, Arab, French and South Korean construction firms have expressed interest in returning to the Iranian infrastructure market. It has been reported that **GS Engineering & Construction** started surveying the Iranian market, looking for opportunities in gas infrastructure in particular. This does not come as a surprise since Iran has an estimated 18% of total global natural gas reserves.

SWOT

Infrastructure SWOT

SWOT Analysis

Strengths	▪ Demand is strong in new housing, and the oil and gas sectors. ▪ Iran has a wealth of natural resources, which is of particular advantage to the construction sector. This wealth includes 9% of the world's confirmed oil reserves and 16% of its natural gas reserves. It also has plentiful reserves of iron ore, non-metallic minerals (including copper, zinc and bauxite) and decorative stones such as marble and granite. ▪ The country is investing in its refinery sector in an attempt to become more self-sufficient.
Weaknesses	▪ Not enough housing capacity is added annually, resulting in a huge backlog. ▪ The Iranian construction industry has been criticised for having poor building standards. Constructors are unwilling to invest money in modern technologies, building codes are widely disregarded, and municipal governments have failed to enforce them or to run a proper inspection system. ▪ There are persistent reports of widespread corruption, including the routine payment of bribes to officials by major construction companies. ▪ Exorbitant land prices account for a disproportionate percentage of construction costs. ▪ Government deficit impacts public spending on infrastructure projects, and already the authorities are placing greater reliance on private investment - of which there is little - most notably due to the US and EU energy sanctions.
Opportunities	▪ Conditions for foreign companies and contractors were eased as a result of the introduction of the Law for the Attraction and Protection of Foreign Investment (LAPFI), approved in 2002.

SWOT Analysis - Continued

	▪ The Iranian government is now actively pursuing opportunities in Iraq, one of the major economies in the region and now politically moving closer to Iran. ▪ Changes to the government's food subsidy programme could release funds for investment in infrastructure.
Threats	▪ Iran is located in a high seismic activity zone and earthquakes have cost the country millions of US dollars in reconstruction work. The long-term rebuilding costs for the quake-hit city of Bam are estimated at almost USD1bn. ▪ Sanctions designed to halt Iran's nuclear programme have resulted in Western investors pulling out of the country and a US ban on foreign financial institution from transacting with Iran's Central Bank - the main conduit for the country's energy deals.

Industry Forecast

Construction And Infrastructure Forecast Scenario

Table: Construction And Infrastructure Industry Data (Iran 2012-2017)

	2012e	2013	2014e	2015f	2016f	2017f
Construction industry value, IRRbn	352,905.00	480,214.89	597,218.74	739,326.03	881,451.02	1,003,091.26
Construction industry value, USDbn	28.9	26.7	24.2	29.9	32.6	35.8
Construction Industry Value, Real Growth, % y-o-y	-3.71	0.47	1.36	2.79	3.22	3.80
Construction Industry Value, % of GDP	5.3	5.5	5.5	5.8	5.9	6.0
Total capital investment, IRRbn	2,021,175.11	2,184,349.47	2,348,911.29	2,547,404.08	2,786,158.39	3,044,392.56
Total capital investment, USDbn	165.70	121.48	95.10	103.13	103.19	108.73
Total capital investment, % of GDP	30.10	25.23	21.46	19.93	18.67	18.14
Capital investment per capita, USD	2,168.18	1,568.57	1,211.89	1,297.67	1,282.51	1,335.36
Real capital investment growth, % y-o-y	-1.00	3.00	4.00	5.00	6.00	6.00
Construction sector employment, '000	2,912.1	2,923.1	2,954.8	3,020.6	3,098.6	3,193.5
Construction industry employment, % y-o-y	-2.97	0.38	1.08	2.23	2.58	3.06
Active population, total, '000	54,318.87	54,902.91	55,445.30	55,945.92	56,408.19	56,844.14
Construction industry employees as % of total labour force	5.36	5.32	5.33	5.40	5.49	5.62
Cement production (including imported clinker), tonnes	70,811,996	75,752,977	69,781,260	73,130,319	77,344,577	81,811,689
Cement production (including imported clinker), tonnes, % y-o-y	5.8	7.0	-7.9	4.8	5.8	5.8
Cement consumption, tonnes	71,600,680	76,484,671	70,546,770	73,927,093	78,174,310	82,676,179
Cement consumption, tonnes, % y-o-y	5.6	6.8	-7.8	4.8	5.7	5.8
Cement net exports, tonnes	-788,684	-731,693	-765,510	-796,774	-829,733	-864,489

Construction And Infrastructure Industry Data (Iran 2012-2017) - Continued						
	2012e	2013	2014e	2015f	2016f	2017f
Cement net exports, tonnes, % y-o-y	-12.7	-7.2	4.6	4.1	4.1	4.2

e/f = BMI estimate/forecast. Source: National Sources, BMI

Table: Construction And Infrastructure Industry Data (Iran 2018-2023)						
	2018f	2019f	2020f	2021f	2022f	2023f
Construction industry value, IRRbn	1,143,398.05	1,307,645.95	1,474,740.97	1,688,578.42	1,924,979.39	2,128,482.38
Construction industry value, USDbn	39.4	43.6	47.6	52.8	58.3	62.6
Construction Industry Value, Real Growth, % y-o-y	3.99	4.36	4.78	4.50	4.00	4.57
Construction Industry Value, % of GDP	6.0	6.1	6.1	6.2	6.4	6.4
Total capital investment, IRRbn	3,339,261.94	3,659,601.79	4,026,291.89	4,385,018.45	4,727,275.87	5,078,245.64
Total capital investment, USDbn	115.15	121.99	129.88	137.03	143.25	149.36
Total capital investment, % of GDP	17.60	16.98	16.63	16.12	15.69	15.26
Capital investment per capita, USD	1,398.09	1,464.97	1,543.46	1,612.23	1,669.44	1,724.95
Real capital investment growth, % y-o-y	6.50	6.50	7.00	6.00	5.00	4.70
Construction sector employment, '000	3,296.9	3,414.6	3,549.1	3,681.8	3,805.0	3,951.5
Construction industry employment, % y-o-y	3.24	3.57	3.94	3.74	3.35	3.85
Active population, total, '000	57,271.78	57,713.18	58,184.09	58,690.55	59,228.83	59,791.86
Construction industry employees as % of total labour force	5.76	5.92	6.10	6.27	6.42	6.61
Cement production (including imported clinker), tonnes	86,938,666	92,392,885	98,645,620	104,377,904	109,438,758	114,427,089
Cement production (including imported clinker), tonnes, % y-o-y	6.3	6.3	6.8	5.8	4.8	4.6
Cement consumption, tonnes	87,839,816	93,326,770	99,613,727	105,375,239	110,459,553	115,464,237

Construction And Infrastructure Industry Data (Iran 2018-2023) - Continued						
	2018f	2019f	2020f	2021f	2022f	2023f
Cement consumption, tonnes, % y-o-y	6.2	6.2	6.7	5.8	4.8	4.5
Cement net exports, tonnes	-901,150	-933,885	-968,106	-997,334	-1,020,795	-1,037,147
Cement net exports, tonnes, % y-o-y	4.2	3.6	3.7	3.0	2.4	1.6

e/f = BMI estimate/forecast. Source: National Sources, BMI

BMI View: *We reiterate our view that the Iranian construction industry will pick up momentum in the short-to-medium term, with growth forecast to average 3.6% over the next five years. While this is highly dependent upon the outcome from negotiations with the West over the nuclear programme, the market is already showing signs of recovery and interest from international firms is on the rise.*

We currently forecast Iran's construction industry to grow by 2.8% in 2015 after an estimated 1.4% in 2014. Our more positive outlook for the industry is based on reduced economic sanctions from the West with regards to Iran's nuclear programme, low base effects, increasing interest from foreign players, and a high demand for infrastructure projects. There are, however, high risks associated with the country's challenging macroeconomic picture and its weak business environment.

The major issue overshadowing the potential of Iran's construction and infrastructure industry is the ongoing tension surrounding its nuclear programme. Although the signing of an interim accord that saw the easing of some sanctions in place on Iran has had a positive impact on Iran's economy, a host of technical and political challenges will hinder the completion of a long-term deal.

Overall, Iran's macroeconomic outlook will remain highly influenced by developments in negotiations with the West on the country's nuclear programme. We believe that talks between Iran and the P5+1 countries (the United States, Russia, China, France, Britain and Germany) on the Islamic Republic's nuclear programme will continue over the next two years through a series of partial deals and extensions. However, we do not expect a 'permanent' agreement to be reached in 2015. The great majority of Western investors, which have in recent quarters shown increased interest in Iran, would have to put on hold plans to undertake large-scale projects in the country.

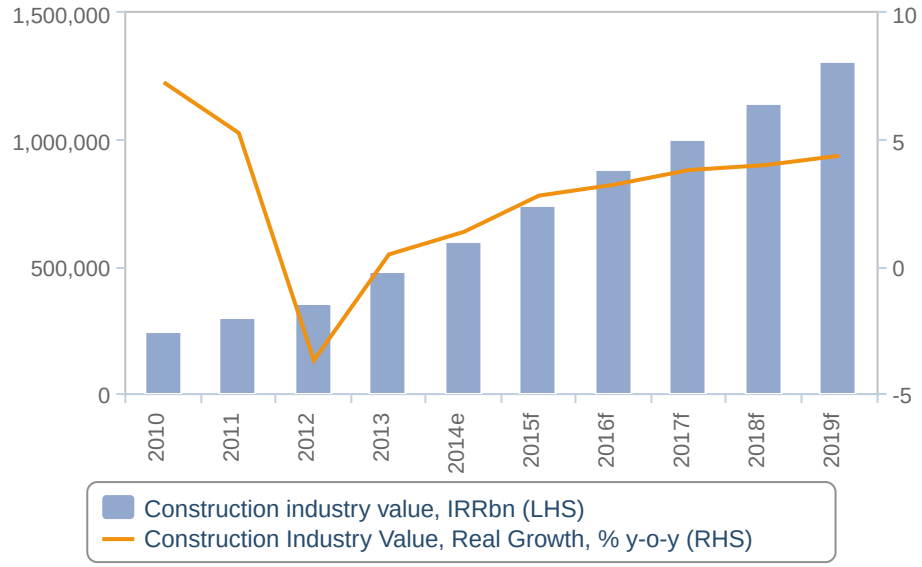
Our Country Risk team sees a 25% chance of a breakdown in talks over the coming four to 12 months, and a 20% chance of a breakthrough in the same period. Should negotiations breakdown, we expect international sanctions to remain in place or even intensify, ensuring that the majority of foreign investors, which have in recent quarters shown increased interest in Iran, would be forced to put on hold any plans to enter the country. On the other hand, a breakthrough and the subsequent easing of oil sanctions would see foreign investors returning to the country given its large consumer base and great potential in key sectors such as energy and infrastructure.

Key Trends In The Market

- Our Country Risk team forecasts real GDP growth of 2.8% and 2.9% in 2014 and 2015 respectively, from a 2.9% contraction in 2013. While this is a considerable recovery it is still below the country's potential.
- Growth in gross fixed capital formation (GFCF) - which is a good proxy for infrastructure - will gradually accelerate over the next quarters, estimated to have expanded by 3.5% in 2014 and forecast to grow further to 5.0% in 2015, according to our Country Risk team. Apart from Chinese and Russian companies, French and South Korean construction firms have expressed interest in returning to the Iranian market.
- Inflation in Iran will be lower in Q414 and 2015 than in 2013, a result of high base effects, improving macroeconomic conditions and the government's efforts to tackle inflation. Our Country Risk team projects consumer price index (CPI) inflation to average 23.0% in FY2014/15 (fiscal year running from March 21 2014 to March 20 2015) and 21.0% in FY2015/16, compared with 35.6% in FY2013/14. We expect the moderation in inflation to have a positive impact on purchasing power among Iranians and such demand in the residential and non-residential sector should benefit.
- Furthermore we believe that housing prices will remain around current levels in 2015, largely as a result of a lack of appropriate housing units. Over the next five years we see housing inflation declining as an improving macroeconomic environment and the government's efforts to promote private sector involvement in the residential construction sector result in an uptick in housing supply.

Rebound Potential

Construction Industry Value LHS And Real Growth RHS (2010-2019)



e/f = BMI estimate/forecast. Source: UN, Bank Markasi, BMI

Oil Industry Remains Key

The outlook for the sector has been challenging, with low growth in 2013 following a deep industry contraction in 2012. A combination of constrained public spending, a prohibitive business environment and a complex macroeconomic picture have all dragged on growth. Iran has amassed a hefty USD40bn backlog of incomplete projects as incentives to invest in new infrastructure to support Iran's oil industry have waned, with the number of markets prepared to accommodate Iranian output having dwindled (several key customers have cut Iranian crude imports).

Consequently, although Iran possesses 9% of the world's proven oil reserves, a lack of new developments and foreign expertise has left the country heavily reliant on existing and ageing infrastructure, with few opportunities for any international construction players to invest in necessary upgrades. Oil revenues account for a significant proportion of government income, estimated at 40% of total revenues in FY2011/2012. This percentage has fallen to 30% in FY2012/2013 as a result of international sanctions, having an adverse impact on public spending on infrastructure. In FY2013/2014, government oil revenues are estimated to have accounted for 34% of total revenues.

In addition, Japan was the second largest importer of Iranian crude prior to sanctions and continues to purchase oil under US exemptions. However an impending rule intended to streamline Japan's ailing refining sector is leading to a shutdown of capacity and a reduction of demand for crude imports. This will further increase the challenges facing Iran to regain international market share if sanctions are lifted.

However, we are more optimistic towards 2015 and beyond. Although the severe constraints on public spending are likely to persist over the near term at least, there are a number of major projects in the pipeline. In September 2014, Iran and Russia entered an agreement to collaborate in the oil sector; according to Russian Energy Minister Alexander Novak, Moscow is ready to carry out USD90.0bn worth of projects in Iran. In the same month, a memorandum was signed between unspecified Russian and Iranian firms for the construction of a pipeline stretching from Iranshahr to Chabahar in south eastern Iran, for an investment of approximately USD0.7bn.

Traditional Sources Of Foreign Investment To Strengthen...

With foreign investors largely deterred by the country's opaque and volatile business environment, China and Russia have traditionally had the strongest presence. Both have vested interests in Iran, most significantly in terms of geopolitics and the commodities trade, and have therefore contributed funding for related infrastructure projects in the past.

For example, in October 2013 it was announced that a new subway linking the capital Tehran with Imam Khomeini Airport will be financed with Chinese funds. As explained by the country's Roads and Urban Development Minister, Abbas Akhoundi, frozen oil revenues from Iran in China will be used to fund the 52km subway. The project also includes free trade zones at the airport which is expected to be completed in 2015.

In addition, the Iranian government is reportedly expecting an increase in Chinese investments in the country, particularly in the mining and steel industry. China is reportedly providing financial assistance to three steel projects under construction in Iran, and plans to aid up to seven projects. Chinese firms **CITIC** and **China North Industries Corporation (NORINCO)** were also selected to build a number of railway projects in Iran in March 2014. CITIC signed a memorandum of understanding with the municipality of Tabriz to build a tramway in the city centre, while NORINCO is set to sign a USD834mn deal to implement a subway and tramway project in the country.

Chinese and Russian firms will remain the main contributors to foreign direct investment in Iran in 2015. In particular, Russian firms continue to express strong interest in the Iranian market, reflecting improving

relations between Tehran and Moscow. Russia will become an increasingly important economic partner over the coming years, even as the majority of projects will not come to completion due to technical and logistical challenges.

...And New Partnerships To Develop

Apart from Russian and Chinese companies, we are starting to detect growing interest from other international players in Iran, including Korean companies. It has been reported that **GS Engineering & Construction** has started surveying the Iranian market, looking for opportunities in gas infrastructure in particular. This does not come as a surprise since Iran has an estimated 18% of total global natural gas reserves. In addition, Iran was the fifth largest market for Korean companies before the sanctions, according to Korean local newspapers. Furthermore, **Hyundai E&C** and **Daelim** have operating offices in Tehran.

These companies' interests are being supported by government initiatives. South Korea's Trade-Investment Promotion Agency (KOTRA) has announced plans to expand economic cooperation with Iran. In addition, following an invitation by President Rohani to invest in Iran's oil and gas sector, a business delegation from South Korea was sent to the country in late February 2014.

Furthermore, we expect to see other companies with an appetite for risk start to enter the construction sector in Iran. With regards to regional players, we anticipate Omani and Qatari companies will show an interest in Iran, as well as Dubai-based **Arabtec**, which is currently undertaking a major expansion plan in the Middle East. Should a long-term agreement over Iran's nuclear programme be reached, we will see the opening up of one of the biggest markets in the Middle East - with outdated infrastructure presenting numerous opportunities for investors. The recent uptick in interest from foreign companies is testament to the market's upside potential.

A Word Of Caution

We must, however, reiterate that estimated growth is based on our aforementioned core scenario, and we highlight that official data is not always timely and transparent. In addition, the volatile political landscape means a slight change to any variable could have far-reaching implications for our outlook for the country and its construction sector.

A breakdown over the nuclear talks could weigh heavily to the downside on our forecasts. Further hardship and isolation due to continued sanctions could eventually result in further depletion of foreign reserves, the

effect of which would be an economic nosedive leading to the rationing of goods, and the country's construction sector grinding to a virtual halt.

Considerable upside potential comes in the form of political change. With Hassan Rouhani as the new leader, we expect macroeconomic management to continue improving under his presidency. Rouhani's more conciliatory approach has led to more open and constructive negotiations over the nuclear programme that has seen a partial lifting of sanctions and could potential lead to a 'return to normal' scenario over the medium term.

Transport Infrastructure – Outlook And Overview

Iran's transport sector is catering for the needs of a population of approximately 78mn and the business needs of an economy potentially worth USD550bn. We believe there are upside predictions for both of these numbers and this will place a strain on the country's transport infrastructure if it does not continue, or rather start, to expand and modernise. Despite government ambitions to attract investment in road, rail and air links to meet the needs of a rising population, there has been little activity in the past five years. The ambition has naturally been severely dampened by US and EU sanctions as a result of Iran's debated nuclear programme.

Flying In

Iran has a total of 319 airports, of which 140 have paved runways. The country has yet to develop a significant tourist sector, with airports mainly used by business travellers. With Iran being the second-largest OPEC oil producer and sitting on the world's second largest gas reserves, its airports cater to the needs of business associated within these two areas. Airports also serve the country's freight sector, although air transport makes only a small portion of total freight transported.

There are plans to expand Iran's main airports, with **Iranian Airports Holding Company** looking to attract in excess of USD1bn in investment into the aviation sector. The main ongoing expansion project is the Imam Khomeini airport in Tehran, which is to be tripled in capacity to 20mn passengers a year, before hitting its peak capacity of 90mn passengers a year - a long-term target that appears highly ambitious in the current climate. Tehran has yet to secure financing commitments for its planned expansion of Qeshm International Airport.

Funding problems will pose the biggest challenges to Iran's proposed air expansion strategy and transport infrastructure more widely. In order to compensate for the lack of funds, the Iranian government is to sell bonds worth IRR7trn (USD570mn), as reported in February 2013. The investment should help finance the development of transport infrastructure projects in the country, as it did in 2012 when 54 projects were developed using IRR30trn (USD2.4bn) of investment generated by bond sales.

Driving Up

BMI forecasts that the number of cars on Iranian roads is set to grow in the long term, although gasoline rationing measures may place a downside risk on this forecast as it becomes more difficult for citizens to buy fuel. Rapidly increasing car sales are placing a strain on the country's road infrastructure and the roads

will need to be repaired more often, as they deal with greater loads and traffic. The country's roads must take the brunt of most of the freight transported within its borders. Roads made up 70% of freight transported in 2014 and this is set to grow to 74% in 2018.

Iran has a total of 198,866km of roads, of which 160,366km are paved, and the country boosts 1,948km of expressways. The country's road network links it with its neighbours: the 2,500km A1 highway runs from Bargazan on the Turkish border, across Iran, to the Afghan border in the east. The A2 links the Iraqi border in the west to Mirjaveh on the Pakistani frontier.

Construction of the Shrine to Shrine Highway officially began in mid-October 2010 and was started by President Ahmadinejad. It is designed to connect the cities of Qom and Mashhad. The 1,100km highway, which is to pass through the cities of Garmsar, Semnan and Sabzevar, will include an electric railway. The project is expected to cost around USD4bn but this number could increase as a result of severe delays.

US-imposed gasoline import sanctions inflict an additional financial burden on the Iranian government, damaging further its ambitious energy expansion plans and also handicapping areas such as freight transport. Despite holding the world's third-largest oil reserves, Iran has struggled to meet growing domestic fuel demand owing to the burden of subsidies and inadequate refining capacity.

Rolling In

Unlike a number of other Middle Eastern nations, Iran has already developed a railway system. The network carries not only passengers but also freight - although this is limited. Iran's railway network services approximately 25% of the total freight transported in the country. There is a total of 8,442km of railway track, of which the majority is standard gauge, but the country also has a broad-gauge system. Only 148km of the track is electrified. The network is based on lines centred in Tehran. Three run southwards: to Bandar Imam Khomeini on the Gulf (with a spur to Khorramshahr); to the Gulf port of Bandar Abbas near Qeshm; and, to Kerman (with a spur running to Isfahan and Shiraz).

For some time now, we have seen strong Chinese interest in investing in Iran's railway sector. In October 2011, the Chinese government made an offer to build a freight rail line, aimed at allowing continuous rail transport of goods from China, through the Middle East to Europe. The line is expected to cost USD2bn, starting in Tehran and running to Khosravi on the Iraqi border and will also offer a passenger service.

In line with this trend, a new subway linking the capital Tehran with Imam Khomeini Airport will be financed with Chinese funds as announced in October 2013. As explained by the country's Roads and Urban

Development Minister, Abbas Akhoundi, frozen oil revenues from Iran in China will be used to fund the 52km subway. The project also includes free trade zones at the airport which is expected to be completed in 2015.

More recently, a consortium comprising **Mapna**, **Mapna Rail Construction and Development**, **Mapna International**, **CMC** and **SuPower** secured financial approval for the 900km Tehran-Mashhad railway project in July 2014. Work under the engineering, procurement and construction (EPC) contract includes the renovation of the existing structure as well as the construction of an electrified railway network for trains with speeds exceeding 250km per hour. As part of the financial agreement, the two Chinese companies - CMC and SuPower - will invest USD2bn in the project.

Chinese investment in transport infrastructure is welcomed by the country as the sector has not seen sustained investment in recent years. In terms of transport infrastructure, Iran ranks 81st out of 144 countries in the World Economic Forum Global Competitiveness Index 2014 - 2015 (previously 76th). Lack of investment in infrastructure is linked to a decline in gross fixed capital formation (GFCF), which is a good proxy for infrastructure.

In addition to Chinese investment, talks between New Delhi and Teheran were reported in June 2014 regarding a USD5bn investment from India into Iran's railway sector. Projects are intended to connect Iran's manufacturing and mining centres to the main ports in order to increase exports competitiveness by extending the railway network by 500km to 1,000km every year. This investment will allow the network to grow from 13,000km to 25,000km in 2025 and it involves building signalling systems, supplying and laying tracks, upgrading existing rail operations and performing electrical work. In order to finance this project, it has been reported that the Iranian government agreed to seek a line of credit from the Export-Import Bank of India.

Furthermore, the government of Iran allocated USD667mn for the construction of Chabahar-Zahedan-Mashhad Railway project. Upon completion, the railroad will connect Chabahar with the provincial capital city of Zahedan, passing through the cities of Iranshahr and Khash, to eventually reach the holy city of Mashhad. The funds are expected to accelerate the construction work, facilitating transit expansion in the province, according to the province's Governor General Ali Osat Hashemi.

BMI notes that although Iran's rail freight sector is falling behind the road sector, a plan to privatise wagons could attract interest, as there is growth potential in the market. **BMI**'s view is based on analysis of rail infrastructure projects that are under way or have been announced and will connect Iran's railway to other countries, thus offering increased access for rail freight. Work is under way on a railway to connect Iran

with Iraq, and the country is developing its freight transport relations with the landlocked states of central Asia, with plans to launch a container train route between Almaty in Kazakhstan, Tashkent in Uzbekistan and Istanbul in Turkey.

Some tangible progress was reported in June 2013 with the inauguration of a new railway line between Gorgan and Incheh Borun. The 80km line is part of the Kazakhstan-Turkmenistan-Iran transit corridor, which is currently being developed by the three countries. The section linking Turkmenistan and Iran is under construction.

Likewise, the North-South Rail Corridor, an ambitious project to create a freight-rail link from Europe, via Russia and Azerbaijan, through Iran and eventually linking to India and South East Asia, has also reported some progress. It is hoped the rail line will carry about 20mn tonnes of cargo a year and improve transport links across Eurasia. In September 2014, Iran's Minister of Roads and Urban Development, Abbas Akhoundi, revealed the government is ready to make a trilateral investment with Azerbaijan and Russia to complete the Qazvin-Rasht-Anzali-Astara railway project. The Qazvin-Rasht-Astara railway is part of the North-South Transport Corridor. Also, in May 2014, the Russian government agreed to build the 167km long Rasht-Astara railway line in Iran's north-western region. The line forms part of the proposed Qazvin-Rasht-Astara railway which is expected to carry 5-7mn tonnes of cargo and 1.4mn passengers per year.

In November 2012, a trilateral memorandum of understanding by the Islamic Republic of Iran Railways, the National Development Fund and the Ministry of Industries and Mines was announced by Iran Railways' Managing Director, Abdol-Ali Saheb-Mohammadi. The agreement will see EUR1bn (USD1.28bn) earmarked for the country's railway industry and railroad spanning approximately 420km. The railroad network is due to link together all the provinces in the country over the next two years.

In addition, a USD10bn investment plan in public transport for the next five years was announced by the municipality of Tehran in May 2014. According to Hojat Behrooz, Assistant to the Deputy Mayor for Transportation, more than 70% of the investment will be allocated to Tehran's existing metro in order to double its network coverage to 300km. Furthermore, the second phase of the extension of Tehran's metro Line 3 opened in April 2014. This USD804mn investment included 12km of track and ten stations that serve the southwest of the capital.

Sailing Through

Since the war with Iraq, Bandar Abbas has overtaken Khorramshahr as the country's major port, handling three quarters of the 20mn tonnes of cargo that pass through Iran's Gulf ports each year. Smaller ports at Bushehr, Bandar Lengeh and Chah Bahar have also assumed greater importance. In addition, the Caspian ports have benefitted from Iran's attempts to develop its relations with the central Asian republics, while modernisation programmes have been implemented at Bandar-e Anzali and Chah Bahar. Iran has also developed a transport network on its waterways. The major system is 850km long and is based on the Karun River and Lake Urmia.

In terms of the Caspian ports, the Iranian Sea ports of Anzali and Amirabad, located in the north of the country, are to undergo major capacity upgrades to double their loading and unloading capabilities, according to the Head of the Iranian Ports and Maritime Organization (PMO), Ata'ollah Sadr. The port of Anzali will increase its cargo-handling capacity from 8mn tonnes per year to 16mn tonnes. Amirabad, which is already Iran's largest Caspian Sea port, will go from a 5mn tonnes capacity to 10mn. The expansion projects have been split into two phases. The first of these is under way and has seen investment of USD52.3mn, while the second and larger phase, will need USD130mn of investment. The PMO has approved finance worth USD110mn for construction of four berths as well as a dredging operation across the Amirabad port's basin.

Despite the various obstacles facing the Iranian construction sector, we do see scope for these projects to be realised. The Caspian Sea port upgrades come off the back of increased demand for imported grain, namely from Kazakhstan and Russia who have reported particularly strong harvests lately. Where other ports, in particular on Iran's Gulf Coast, will suffer from the drop in demand for consumer goods, food is not affected by the international sanctions leveraged on Iran. A major part of the expansion in capacity is focussed towards the import of grains, with the port's third silo set to have a total capacity of 54000 tonnes. With the increase of the number of silos in Amirabad, it will turn into the grain hub of the northern Iran for the transit of the commodity from north to south. Iran, once a wheat exporter, has been importing vast amounts of the grain over recent months.

The country's ports are still limited in their capacity, as the majority is only able to service 100,000 tonne vessels. This has forced Tehran to ask ships to dock at the main UAE ports, such as Dubai's Jebel Ali, so that goods can be loaded onto smaller ships and then sent to Iran. In addition, the ongoing diplomatic struggle concerning the country's nuclear energy sector is likewise having an effect on the country's port infrastructure. Port operator Tidewater Middle East Co (Tidewater) was added to a US Treasury Department

blacklist for sanctions in July 2011. The firm is the largest handler of container shipping at Iranian ports and is estimated to be responsible for more than 90% of the container operations in Iran.

Major Projects Table - Transport

Table: Major Projects Table - Transport

Project Name	Sector	Value (USDmn)	Size	Companies	Timeframe	Status
Imam Khomeini Airport - Parand City subway	Rail	n/a	52km	n/a	2013~	At planning stage
Subway linking Imam Khomeini Airport to the new Parand City in Tehran	Rail	n/a	52km	n/a	n/a	Project finance closure
Chabahar-Zahedan-Mashhad Railway	Rail	3400	1350km	Iran Roads and Transportation Ministry (Operator)	2010~2015	Under construction
Qazvin - Rasht - Astara (Iran) - Astara (Azerbaijan) railway project	Rail	n/a	n/a	n/a	~2014	Under construction
Central Asian North South Railway	Rail	n/a	70km	n/a	n/a	Project finance closure
North-South Transnational Corridor (Iranand and the Persian Gulf)	Rail	n/a	70km	n/a	2007~2014	Under construction
Uzen, Kazakhstan to Gorgan, Iran railroad	Rail	404.9	700km	n/a	2009~	Under construction
Said Rajee Port Renovation Project	Ports	n/a	7600000TEU	n/a	~2014	Completed
Ahvaz Railway (Phase 1)	Rail	n/a	23km	n/a	n/a	Project finance closure
Construction of Mehran four-lane highway to Iraq	Roads & Bridges	n/a	n/a	n/a	~2015	At planning stage
Silk Road Economic Belt Railway	Rail	n/a	n/a	n/a	~2030	At planning stage
Tabriz-Bazargan Highway	Roads & Bridges	n/a	255km	n/a	n/a	At planning stage
Tabriz Tramline Project, Tabriz	Rail	n/a	n/a	n/a	n/a	At planning stage

Major Projects Table - Transport - Continued

Project Name	Sector	Value (USDmn)	Size	Companies	Timeframe	Status
Chabahar Port Development Project	Ports	n/a	10000'000 tonnes	Government of India (Financier), Khatam al-Anbiya (KAA)	~2014	Under construction
Monorail System, Qom (Stage 1)	Rail	120	6km	Mapna	2009~	Under construction
Chabahar-Sarakhs railway	Rail	2500	n/a	Khatam al-Anbiya (KAA)	2010~	Contract Awarded
Tehran Monorail	Rail	n/a	12km	n/a	2008~	Cancelled
Electrification of Tabriz-Azarshahr Railway Project	Rail	11.98	46km	Russian Railways (Operator), Sazeh Novin Tabriz (Construction)	2009~2012	Completed
Iran, Russia and Azerbaijan railway	Rail	n/a	n/a	n/a	2008~2014	Under construction
Chabhar Port to Fahraj Railway	Rail	n/a	600km	Indian Railways	n/a	Completed
Iran-Armenia rail link connection PPP	Rail	n/a	60km	Southern Armenian Railway (Sponsor), China Communications Construction Company (CCCC) (Feasibility), Rasia FZE (Construction)	2016~2022	Contract Awarded
Regional rail network across Iran	Rail	63	n/a	n/a	n/a	Under construction
Bam-Zahedan railway line	Rail	291	1.8km	n/a	n/a	Completed
Isfahan Underground line 1	Rail	99.25	12.5km	Namad Mobtaker Company, Mapna	2010~2013	Under construction
Tehran-Shomal Freeway(phase1)	Roads & Bridges	138	32km	n/a	n/a	Under construction
Persian Gulf bridge project	Roads & Bridges	889	2.2km	n/a	2011~2012	Completed
Tehran-Khosravi rail line	Rail	2000	570km	n/a	n/a	Contract Awarded
Rail line, Tazraj-Ensheab, Homozgan region	Rail	n/a	200km	n/a	n/a	In tender/ Tender launched
rehabilitation of a rail line, Lorestan region	Rail	n/a	60km	n/a	n/a	In tender/ Tender launched
National railway lines project	Rail	12500	n/a	n/a	n/a	Under construction
Tehran-Mashhad Rail Line	Rail	2000	900km	n/a	n/a	Under construction

Major Projects Table - Transport - Continued

Project Name	Sector	Value (USDmn)	Size	Companies	Timeframe	Status
Electrification Project						
Tehran-Qom-Esfahan rail line	Rail	1242	410km	n/a	n/a	Under construction
North-South Rail Corridor	Rail	400	566km	n/a	n/a	Contract Awarded
Iran-Turkmenistan-Kazakhstan Joint Rail Project	Rail	150	90km	n/a	n/a	Completed
Trans Asian (Kyrgyzstan-China-Uzbekistan) Rail Network	Rail	4500	270km	Metra (Feasibility)	2014~	At planning stage
Imam Khomeini International Airport Expansion Project Phase 2	Airports	2200	26.5mn passengers/yr	n/a	2013~	Under construction
40 Multipurpose Ports Project, Southern Coastal Regions	Ports	n/a	344000'000 tonnes	n/a	2010~2013	Completed
Inceburun-Gorgan railway	Rail	98	80km	n/a	2012~2013	Completed

**n/a = not available. Source: BMI Key Projects Database*

Energy And Utilities Infrastructure – Outlook And Overview

Data for Iran's electricity generation and consumption show a country capable of meeting its own power demands, but is distant from achieving its energy export ambitions. Our Power sector analysts estimate electricity generation in 2014 was 228.13TWh, just exceeding the country's power consumption of 189.9TWh for the year. This looks set to continue over the medium-term, with consumption forecast to climb to 238TWh in 2020. This will then be met by supply, which is expected to increase to reach 284TWh.

To realise this expansion in generation capacity, Iran and Russia have signed a letter of intent on energy cooperation and are constructing shared power grids. In fact, Russia announced in April 2014 that it will invest USD10bn in Iran's power sector, including hydropower and thermal power plants, as well as transmission and distribution (T&D) infrastructure.

Furthermore, Iran and Russia signed a cooperation agreement for the construction of thermal power plants in September 2014. 'The grounds for cooperation between Iran and Russia for constructing thermal power plants worth over USD10bn are provided and we have planned for partnership in building eight new thermal power plants with the capacity of 2,800MW,' according to Hamid Chitchian, Iran's Minister of Energy. The minster revealed that four units of the power plants will be built in the southern port city of Bandar Abbas, two units in the Sahand city, north-west Iran and two units in the Tabas city in the east. The minster also disclosed that environmental studies are still being carried out for the construction of two power plants in Tabriz city. Under the contract, the Russians will also renovate four more plants in Iran.

Iran's power generation capacity is expected to grow by 2,156MW by March 2015 with the launching of 14 new power plants in the country, according to Iran Power Development Company (IPDC) Managing Director, Majid Salehi. Out of the total capacity increase, 550MW will pertain to the private sector, while about 1,400MW to the public sector. The latest development of new power plants include two 162MW units in Hormuzgan province, two 162MW units in Iranshahr, two steam units in Abadan, Kahnouj power plant in Kerman province, Parrehsar power plant in Gilan province, a thermal power plant in Bushehr province and two 25MW units in Kermanshah province.

Filling Up On Gas

Although Iran has the installed capacity to meet demand, the country's undiversified power sector is susceptible to blackouts. Iran has the world's second-largest gas reserves and has built a power sector that is overwhelmingly reliant on this indigenous fuel. Gas is expected to account for over 70% of the country's total power generation by 2018, increasing to more than 74% by the end of our forecast period in 2023.

Recent gas-fired projects include two 1.04GW combined cycle plants in the south of the country, a 1.3GW combined cycle plant at Arak, a 1GW facility in Bandar Abbas, and a 1GW combined-cycle plant being built by the **Tehran Regional Electricity Company** in Qom.

In addition, final stage construction work on a USD7bn gas pipeline connecting Iran and Pakistan started in March 2013, despite having faced repeated delays since its conception in 1990s. The project, dubbed the peace pipeline, was slated to connect Iran's giant South Pars gas field to India through Pakistan (IPI Pipeline). However, chances of any quick gas deliveries from Iran are slim. Pakistan will face difficulty financing its half of the pipeline so long as western sanctions on Iran block foreign funds from the project. Furthermore, Iran's ability to meet export obligations is also in doubt given its own domestic gas shortfalls. In addition, the US has been opposing the involvement of India and Pakistan, claiming that the project could violate sanctions imposed on Iran for carrying out nuclear activities to develop a weapons capability. For now, the project has been forfeited by India, citing costs and security issues, following a nuclear deal with the US.

We are also seeing tangible progress on the USD450mn Iran to Iraq gas transmission pipeline which is 90% complete. Although the pipeline was expected to be completed already, the section in Iraq was delayed as a result of unstable security and land ownership issues. In fact, fifteen Iranians and three Iraqi workers were killed in a pipeline attack in December 2013. Despite political pressure from the US and the current sanctions imposed on Iran, the project is expected to become operational in March 2015.

There are also plans to build a USD1bn natural gas pipeline between Oman and Iran, as announced in April 2014. However, we believe this announcement is politically motivated as Iran attempts to form alliances in the region and we do not expect this project to be realised in the near future. Furthermore, we question Iran's capacity to export gas as part of the agreement, given its internal supply shortages and a previous commitment to export gas to Iraq. The natural gas pipeline was one of many deals signed by Iran's President Hassan Rouhani in his visit to Oman in March 2014, his first official trip to an Arab state.

It has been reported that Korean **GS Engineering & Construction** started surveying the Iranian market, looking for opportunities in gas infrastructure in particular. This does not come as a surprise since Iran has an estimated 18% of total global natural gas reserves. In addition, Iran was the fifth largest market for South Korean companies before the sanctions, according to South Korean local newspapers.

Developing Nuclear No Matter What

The country is in the process of developing a highly controversial nuclear power sector. Russia has helped Iran to complete the construction of the Bushehr nuclear power station and has started delivering fuel to the facility. The programme is viewed with suspicion by members of the international community, who fear that Iran may go on to develop a nuclear bomb. **BMI** believes that the nuclear facility could contribute 2.4% of Iran's energy in 2015. In September 2013, the Russian government handed over operational control of the first unit of Bushehr the Iranians according to head of Iran's Atomic Energy Organization, Ali Akbar Salehi. Russian experts would be responsible for looking after the facility throughout the two-year warranty period. Additionally, Russia would supply fuel to the facility for 10 years. Meanwhile, the two governments are discussing the construction of new nuclear power plants and the second unit at Bushehr is already under consideration with the engagement of Rosatom.

In fact, Iran and Russia entered into a preliminary agreement to build at least two new nuclear power plants in March 2014, according to Iranian Atomic Energy Organisation spokesperson, Behrouz Kamalvandi (IRNA). The two new 1,000MW stations will be built alongside the existing 1,000MW power plant in Bushehr. Further discussions on the technical and financial aspects of the project are scheduled to take place, but a final agreement is expected to be signed soon. Iran is likely to finance the new Bushehr project on a barter basis. Construction is scheduled to start in 2015 in order to reach completion in five to seven years.

Iran's nuclear programme is of primary concern to the West. However, moderate cleric Hassan Rouhani - the President of Iran elected in June 2013 - has shown signs of a more conciliatory approach towards the nuclear talks and the latest developments point to a notable improvement in relations between Iran and the West. While there are significant obstacles to a major improvement in Washington-Tehran relations, US President Barack Obama is seeking to take advantage of Rouhani's more cooperative approach to pursue a strategy of rapprochement with the Islamic Republic, which can be a valuable legacy for its second term in office.

In fact, Iran and the so-called P5+1 countries - China, France, Russia, the UK and the US plus Germany - reached an understanding on the implementation of a deal reached in November 2013 on the Islamic Republic's nuclear programme. The accord included a partial lifting of sanctions and started a six-month timetable to reach a final agreement on the nuclear programme, a period which has been extended by four months by mutual consent. As they failed to meet the July 2014 deadline for a 'permanent' deal, they have now set a new deadline for November 2014.

Uncontroversial Power

In moves, which are unlikely to rouse similar levels of protest, the governments of Iran and Turkey are planning to construct several power plants, said Iranian deputy energy minister Mohammad Behzad, following a visit by an Iranian delegation headed by Energy Minister Majid Namjou to Turkey. He added that the two countries discussed plans for constructing thermal and renewable power plants with generation capacities of 6-10GW, as well as hydropower plants with capacities of 10GW.

Electricity cooperation with other countries is increasingly a focus of the government, with news that Iran's Energy Minister has been quoted by the state's news agency saying that the construction of a third electricity transmission line from Iran to Armenia, with a capacity of 800-900MW, was due to begin in June 2011. However, construction has not started yet due to multiple obstacles. The minister said the project is expected to cost up to USD110mn and is to be followed by a further joint Iranian-Armenian project, a hydroelectric power plant based on the Aras River, subject to negotiation.

Iran is also exploring renewable energy sources, and has launched commercial operations at its biggest solar power plant in Mashhad. The plant, likely to generate 72,000kWh of electricity annually, will produce enough power to meet the requirements of Razavi Khorasan province, according to the plant's CEO, Gholam Reza Karamian. The plant, which has 216 solar panels, has been designed and constructed by native experts. Moreover, the plant has been fitted with solar trackers to improve efficiency.

Also, the first 20MW phase of a 100MW wind park in the province of Qazvin officially started operating in August 2014. The plant includes eight 2.5MW turbines and **Iran Power Plant Projects Management Company** is responsible for the construction activities. The first phase of the project reportedly involved an investment of EUR30mn (USD40.13mn). The entire 40-turbine wind park in Kahak village is scheduled to be completed in two years and is estimated to cost about EUR150mn (USD200.64mn).

Hydroelectric power is a major plank of Iran's programme to become more self-sufficient in energy consumption as it tries to boost generation capacity by 5,000MW. The Karoun-4 Roller-Compacted Concrete (RCC) dam, which sits across the Karoun River in Chaharmahal-Bakhtiari province in Iran, was inaugurated by former president Mahmoud Ahmadinejad in July 2011. The IRR12.8bn (USD1.19mn) dam will generate power and provide water for industrial and agricultural purposes in the province. The completion of the dam marks the fact the country's dam-building industry has become self-sufficient. In fact, according to Zawaya, Iran is one of the top three dam constructors in the world. A total of 44 Iranian companies are currently active in either the electricity or water sectors, operating in 40 countries around the world.

Progress On The Waterfont

Iran's challenging environment for investment has increased the country's dependency on multilateral agencies funding for infrastructure projects. In fact, the Islamic Development Bank (IDB) approved a EUR144mn (USD197.61mn) loan for the development of water and wastewater projects in the Iranian province of Fars in February 2014. The fund will be utilised by Iran's **Water & Wastewater Company** to construct wastewater facilities in Abadeh, Fasa, Darab, Sepidan, Neiriz and Firouzabad, according to Water & Wastewater Company's MD, Hamid Reza Janbaz.

In April 2013, the Iranian government announced that it will invest IRR52trn (USD4.1bn) in the development of 20 water supply projects across the country. The projects are intended to ameliorate a water shortage within the Islamic republic. One of the projects is the construction of a 762km water pipeline that will provide drinking water to more than 1.5mn people. The pipeline, which will be the longest water supply pipeline in Iran, is aimed at serving the potable water demands of five large cities and eleven small cities along the Persian Gulf coasts. The Iranian government has invested IRR1.8trn (about USD146mn) so far in the project, which is estimated to entail a total investment of IRR3trn (USD$243.3mn).

In addition, the Iranian Ministry of Energy signed an agreement in September 2014 with local water and sewage utility company **ABFA** to develop seven water and wastewater management projects in the country. About IRR9.5trn (USD310mn) will be invested in the projects, including a project to facilitate water supply in Khash and building desalination plants in Bandar Torkman, Gomishan and Kerman. Under the agreement, the company will also upgrade wastewater treatment plants in Zavareh and Tehran.

Another project is the construction of desalination plants that will serve the water demands of people in the Iranian provinces of Hormuzgan, Kerman and Yazd. The plants are likely to be completed in four phases with private investment. Desalination plants can produce 1mn cubic metres per day of drinking water and 1,000MW of power. The Iranian government has already set up 10 pumping stations, more than 600km of water supply lines and reservoirs with a capacity of 10,000m3. It is expected that desalination plants will serve 40-50% of drinking water demands of the urban population of Hormuzgan province and its islands.

Major Projects Table - Energy & Utilities

Table: Major Projects - Energy And Utilities

Project Name	Sector	Value (USDmn)	Size	Companies	Timeframe	Status
Persian Gulf coast water supply pipeline	Water	243.3	762km	n/a	2013~	Announced
Kish Gas Field Project - Phase I	Oil & Gas Pipelines	12000	200km	China Petroleum Engineering and Construction (CPECC), Bank Mellat, National Iranian Oil Company (NIOC)	2012~2014	Under construction
Electricity transmission line to Iran from Armenia	Power Plants & transmission grids	n/a	1200MW	Sanir	n/a	Approved
Expansion of Aras River hydropower plant to 1.7 gigawatts GW	Power Plants & transmission grids	n/a	130MW	n/a	2012~2016	Under construction
Anbar - Akkas Gas Pipeline Project	Oil & Gas Pipelines	449	550km	Korea Gas (Kogas), STX Group	~2017	Contract Awarded
Kish Island Gas Electric Power Plant	Power Plants & transmission grids	n/a	n/a	Kish Free Zone Organization (Operator)	2013~2014	Under construction
Simareh Dam project, Ilam	Power Plants & transmission grids		850MW	n/a	n/a	At planning stage
Second power station on Kish Island	Power Plants & transmission grids	58	20234.3square metres	n/a	2014~	Under construction
Qazvin wind park ,Kahak village	Power Plants & transmission grids	200.64	100MW	Iran Power Plant Investment Company (Construction)	~2016	Under construction
Two New Nuclear Power Plants, Bushehr	Power Plants & transmission grids	n/a	1000MW	Atomic Energy Organisation of Iran (Sponsor)	2015~2022	At planning stage
Iran-Iraq-Syria Gas Pipeline (Friendship Pipeline)	Oil & Gas Pipelines	n/a	n/a	n/a	2013~2015	Under construction
Manjil wind farm Expansion, Gilan	Power Plants & transmission grids	n/a	100MW	Renewable Energy Organisation of Iran (Sponsor)	~2014	Under construction
Tabriz (Iran) - Yeraskh	Oil & Gas Pipelines	n/a	365km	Government of Armenia (Sponsor)	n/a	At planning stage

Major Projects - Energy And Utilities - Continued

Project Name	Sector	Value (USDmn)	Size	Companies	Timeframe	Status
(Armenia) Fuel Pipeline						
Iraq-Iran Gas Pipeline Project	Oil & Gas Pipelines	n/a	100km	Iran Gas Engineering and Development Company (Operator)	2013~2015	Under construction
Iran-Pakistan-India Pipeline Project	Oil & Gas Pipelines	500	n/a	Government of China (Sponsor), Government of Iran (Sponsor), ILF Consulting Engineers Polska sp. z o.o., GAIL India, Tadbir Energy, Pakistan Interstate Gas Company (ISGC)	~2014	Under construction
Azerbaijan - Iran Gas Pipeline Project	Oil & Gas Pipelines	n/a	200km	National Iranian Gas Exports Company (NIGEC) (Operator), Socar (Financier)	n/a	At planning stage
Kuwait-Iran Pipeline	Oil & Gas Pipelines	n/a	590km	Kuwait Petroleum Corporation (Sponsor), National Iranian Gas Exports Company (NIGEC) (Sponsor)	~2014	At planning stage
South Pars Gas Field - Phase 12	Oil & Gas Pipelines	500	206000000 square metres	Petropars	n/a	Under construction
Gas-fired power plant	Power Plants & transmission grids	10000	6000MW	Power Grid Corporation of India Ltd (PGCIL), National Thermal Power Corporation (NTPC)	2009~	At planning stage
Bushehr Nuclear Power Plant	Power Plants & transmission grids	11000	700MW	Rosatom (Operator), Atomstroyexport (Construction)	1994~2011	Completed
Iran-Russia electricity grid link	Power Plants & transmission grids	n/a	n/a	n/a	n/a	At planning stage
Cycle Power Plant ,Heris, East Azerbaijan province	Power Plants & transmission grids	675	1200MW	Zenel Company, Tavanir	2008~	Contract Awarded
Iran-Turkey Transmission Line	Power Plants & transmission grids	1500	2000MW	n/a	n/a	Contract Awarded
Rudbar-E-Lorestan Hydropower Project on Rudbar River, Zagros Mountain	Power Plants & transmission grids	9.52	450MW	PAPyry Infrastructure & Environment business group	2011~2014	Under construction
Qom Waste Water Treatment Plant	Water	11	18.6mn m3 per year	Iranab Consulting Engineers (Construction), Islamic Development Bank (IDB) (Financier)	n/a	At planning stage

Major Projects - Energy And Utilities - Continued

Project Name	Sector	Value (USDmn)	Size	Companies	Timeframe	Status
Bakhtiari Hydropower Plant CDM Project, Zagros Mountains, Lorestan Province	Power Plants & transmission grids	2000	1500MW	Rahbord Energy Design & Development Eng. Co. (REDECo), Iranian Revolutionary Guards, Khatam al-Anbiya (KAA)	2013~	Under construction
Ghadir Solar and Wind Power Plant	Power Plants & transmission grids	4500	1000MW	n/a	n/a	Contract Awarded
Southeastern Khuzestan Province - Rey refinery Oil Pipelines Project, Tehran	Oil & Gas Pipelines	2600	1100km	Khatam al-Anbiya (KAA)	n/a	Contract Awarded
Gas Pipeline, Northwestern Iran	Oil & Gas Pipelines	1300	n/a	National Iranian Gas Exports Company (NIGEC), Khatam al-Anbiya (KAA)	n/a	At planning stage
Iran - Armenia 3rd electricity transmission line	Power Plants & transmission grids	n/a	n/a	n/a	n/a	Approved
Caspian Sea-Semnan Water Pipeline And Desalination Plant	Water	1000	200mn m3 per year	n/a	n/a	Under construction
Tehran Biomass Plant	Power Plants & transmission grids	n/a	2MW	n/a	2010~	Announced
Jarandaq wind power plant, Qazvin	Power Plants & transmission grids	n/a	60MW	n/a	n/a	Feasibility studies/EIA underway
Karachilare (Ghareh Chilar) Hydropower Plant, Aras River	Power Plants & transmission grids	n/a	130MW	Farasan international Co (Equipment), Mahab Ghodss Consulting and Engineering Company (Consultant/Project Management), Farab Company Iran (Construction)	n/a	At planning stage

** n/a= not available. Source: BMI Key Projects Database*

Residential/Non-Residential Building – Outlook And Overview

An industry contraction in 2012 followed by weak growth in 2013 has had a detrimental impact on the residential and non-residential sector. We believe this sector of infrastructure underperformed, due to the shrinking domestic purchasing power and the rising costs of building materials in the context of a depreciating currency. We are, however, more optimistic from 2015 onwards as we forecast an average annual growth rate of over 3.6% in the next five years. We highlight the potential of the residential and non-residential sector to play a key role in driving growth, given the country's housing deficit, but we remain aware of the challenges.

Demand for housing stock has traditionally been a key driver for the construction sector in Iran, but now, on the back of international sanctions in response to the country's nuclear programme, the sector has fallen behind. In January 2011, the country was facing a housing deficit of 1.5mn housing units, which has continued. However, despite the economic outlook, state media continues to announce newer and grander projects (similar announcements seen in all construction sub-sectors).

A potent example is the statement by then Minister of Housing and Urban Development, Ali Nikzad, (who has now become the Minister of Transportation and Housing) who claimed that a total of 1.7mn units were in the pipeline or under construction, with two Turkey-based firms carrying out a project to build 25,000 units. We have been unable to confirm this data. Yet questions should be raised as to how this flagship development is being financed. As a result we have not incorporated this into our overall construction forecast that remains weighed down by heavy sanctions.

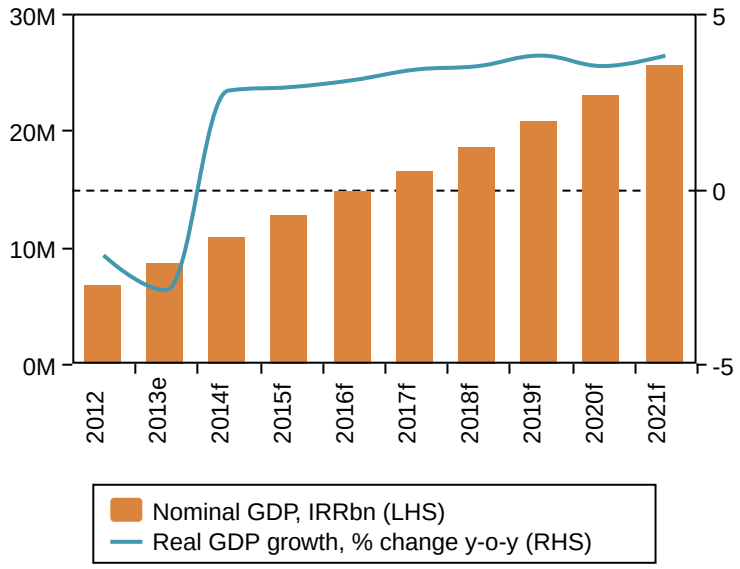
The interplay of elevated price pressures and a weak currency will ensure unemployment levels remain high in 2015. Iranians' purchasing power has been eroding steadily over the past several quarters, with inflation making it difficult to purchase basic goods. With the cost of building materials continuing to rise and demand for housing weakened by the challenging conditions facing Iranian households, residential construction activity is likely to be heavily constrained.

In the years before Ahmadinejad, private capital supplied most of the funding for the housing sector as this used to be a profitable business. However, external banking sanctions, the government's failure to deliver on housing programmes, subsidy reforms that have made construction materials more expensive, depreciation of the Iranian *rial*, in addition to political and legal uncertainties have led to a crisis in Iran's housing market. As a result, there is currently a shortage of urban housing that affects particularly the middle class.

We believe that housing prices will remain around current levels in 2015, largely as a result of a lack of appropriate housing units. Over the next five years we see housing inflation declining as an improving macroeconomic environment and the government's efforts to promote private sector involvement in the residential construction sector result in an uptick in housing supply.

Strong Potential For Growth

Iran Nominal GDP And Real Growth (%)*

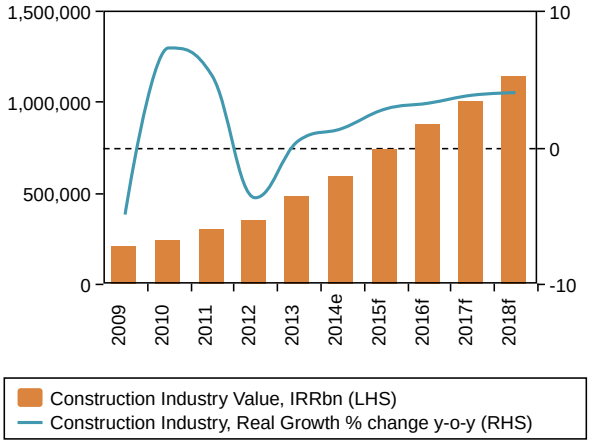


Year Begins in March (Iranian calendar). e/f = BMI estimate/forecast. Source: BMI, UN

In March 2012, former President Ahmadinejad inaugurated a housing complex in Andimeshk containing 4,000 units. Similarly, Iran's north-eastern Razavi Khorasan Province reportedly saw the delivery of 3,030 residential units in 2010/11, while a total of 440,000 units were delivered nationwide over the 12-month period. The Iranian government seemingly continues to ramp up residential construction to narrow the country's housing deficit, with 800,000 units planned to be built in rural villages.

Back On The Right Track?

Construction Industry Value And Real Growth (%)



e/f = BMI estimate/forecast. Source: BMI, Bank Markasi, UN

Yet despite the ambitious announcements, the Mehr housing project continues to be the largest in the residential sector. In July 2010, deputy housing minister Jamshid Noorsalehi announced that five foreign companies had concluded contracts to build 40,000 houses for the project. Land was prepared for building 1mn residential housing units in Q310, and in September 2011, it was reported that the scheme will see the construction of 430,000 urban residential units in early 2013. About 20,000 housing units were supposed to be built by a Turkish company and 5,000 housing units by a South Korean firm in the new city of Parand. According to the 2012 Annual Review by Iran's Central Bank, as of March 2012, 1.6mn residential units were under construction.

So far, the government has failed to deliver much of what it had promised while absorbing some of the private capital that would normally have gone into constructing new units. The current administration led by President Hassan Rouhani has put a stop to the Mehr plan, a move which will likely encourage private sector companies to step in and contribute to a gradual decline in housing costs. We believe that housing prices will remain relatively elevated over the coming quarters, largely a result of a lack of appropriate housing units. Although we are confident that the current administration will succeed in encouraging private sector companies to increase the offer of housing, contributing to a gradual decline in costs, the effects of such policies will be felt only after a few years.

A project that does appear to see the light of day is the USD830mn Fars Shopping Complex in Shiraz (though it is still unclear how retailers will fill the vast space) where UAE developer **Royal Star International** recently completed extensive work. Construction Week reports that the 420,000m2 centre houses 2,500 shops - more than any other mall in the world. The mall, opened in September 2011, is also said to include a five-star hotel, an exhibition and a conference centre as well as an amusement park.

Finally, the latest census figures indicate that Iran has more than 730 hospitals and clinics. Around 10% of this capacity is operated by the private sector or bodies such as the Social Security Organisation of Iran. However, the imposition of trade sanctions on Iran is reported to be significantly affecting patient care, due to constant lack of supply.

Industrial Construction

Although we have not detected strong activity in this sector, two China-based firms, **Metallurgical Corporation of China** and **Zhongye Changtian International Engineering**, reportedly secured a contract to construct a USD297mn pellet plant in the Iranian province of Yazd in February 2014. Both firms will develop the plant under an engineering, procurement, construction and financing contract. Once completed, the plant will be capable of producing 5mn tons of pellets annually. The plant is scheduled to start operating by July 2016.

Industry Risk Reward Ratings

Iran - Infrastructure Risk/Reward Index

The potential for growth in Iran's overall infrastructure market is one of the country's redeeming features, with a combination of its dilapidated infrastructure and the government's reported spending pledge. However, for Iran, political risk is the greatest ongoing threat, which is also accompanied by sanctions against the country, preventing many of the largest construction companies from entering the country. Sanctions have also hit the government's finances to the extent that public infrastructure investment is being significantly reduced. As a result, the country has one of the lowest scores in the Middle East, at 40.5 out of 100.

Rewards

Industry Rewards

Iran scores a weak 37.5 for Industry Rewards, well below the regional average of 52.7. Although we do not expect the construction sector to recover to pre-crisis growth levels soon due to moderate economic growth, rising inflation and the pressure of international sanctions, we are turning more positive on Iran. In terms of value, the Iranian construction industry is relatively sizeable, and with a large and growing population, there is strong demand for infrastructure development.

Country Rewards

Iran is well below the regional average with its country rewards score of 42.7. The need to strengthen the capital ratios and improve non-performing loan ratios in the country's banking sector weighed on Iran's country structure score. Iran also scores modestly in terms of its labour market. It has been observed that stringent local labour laws have prompted its labour population to seek employment abroad. This exodus has been a major problem for the construction sector, resulting in delayed projects. The country also suffers from a poorly structured financial system, which creates hurdles when attempting to access capital.

Risks

Industry Risks

Iran's poorest performance in **BMI**'s RRI is in the Industry Risks sub-category, where the country continues to receive a score of 35.0. Iran's score reflects the high barriers to entry and lack of competition in the country's infrastructure markets. This weak score places it well below the regional average as a result of international pressure due to the country's controversial nuclear programme. The business environment in Iran is also constrained by the government's reluctance to allow substantial foreign investment. The Foreign Investment Promotion and Protection Action (FIPPA) has improved regulations surrounding foreign investment. However, the level of investment still remains capped in most instances and Iranian companies still need to hold the majority stake in most ventures**.** The amount of foreign direct investment is small and will have to grow significantly if Iran is to make headway with privatisation plans.

Country Risks

Iran receives a score of 48.9 for the Country Risks sub-category - again, well below the regional average, but slightly better than previous quarters. Foreign firms still find the legal/regulatory aspect of doing business in Iran laborious and prohibitive. The country's score is deflated by a lack of separation between the executive and judicial branches, as well as the risk of political and economic isolation from Western-led sanctions. The country suffers from endemic levels of corruption, while a complicated and poorly enforced commercial legal code undermines the effectiveness of the Iranian judicial system. Although nominally independent, political interference in the judicial system is rife. This further damages the business environment for foreign firms.

Middle East And North Africa - Infrastructure Risk/Reward Index

***BMI View**: Infrastructure Risk/Reward Index (RRIs) scores across the Middle East and North Africa (MENA) remained relatively stable this quarter. Robust project pipelines enjoy strong government support in the region and demand for infrastructure continues to grow. However, political instability and security risks remain the major threats to investors, which have been exacerbated by the current security crisis in Iraq.*

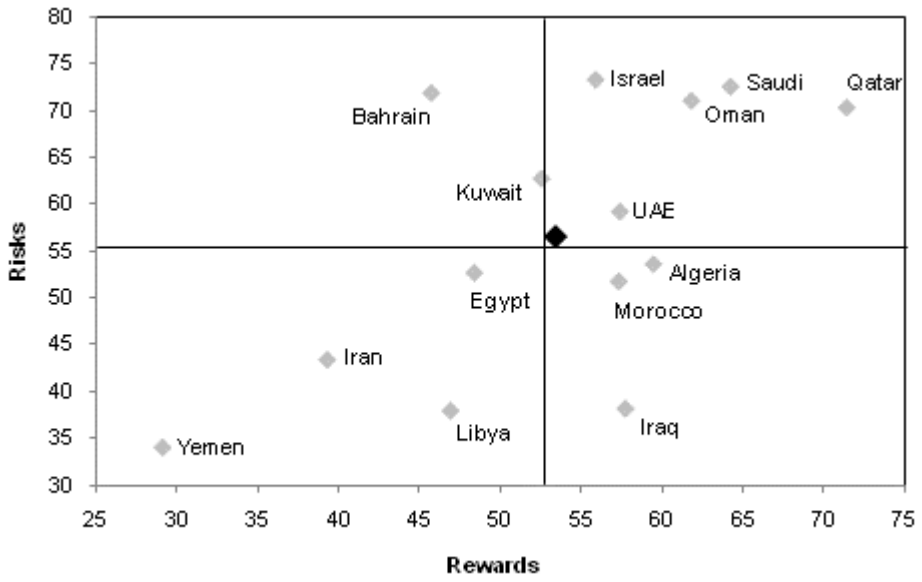
The current security crisis in Iraq is a considerable downside risk to both the country and the wider region, as it destabilizes business environments. The crisis has increased risks to regional stability, weakening investor sentiment towards the region and subsequently threatening the completion of numerous infrastructure projects. In Iraq we expect domestic and foreign investment will likely decline significantly as a result of political risks, and our Country Risk team anticipates that consumer spending and fixed investment will be hit hard. We highlight that any further escalation could pose increased security risks to energy infrastructure in the oil producing areas in the south of Iraq causing oil companies to suspend infrastructure investments. In this case we will further downgrade our construction industry forecast for Iraq in 2014 and 2015 which will hurt Iraq's Industry Rewards score.

We continue to highlight capacity constraints - specifically a shortage of labour and building materials - as another significant risk of investing in the region, particularly in the Gulf Cooperation Council (GCC) countries. However, with some of the fastest growing markets in the world, the Middle East and North Africa (MENA) region offers abundant rewards and attractive opportunities for investors, particularly for those already active in the region.

Qatar continues to lead our MENA Risk/Rewards Index (RRIs), consolidating a strong score of 71.1 out of 100 - equivalent to the score for a developed market. This is followed by Saudi Arabia and Oman, which recently climbed our rankings from the fifth position. Unsurprisingly, Iran, Libya, and Yemen retain their places at the bottom of our Index table and we anticipate Iraq's score will continue to weaken as a result of the current security crisis.

Opportunities Abound

MENA RRI



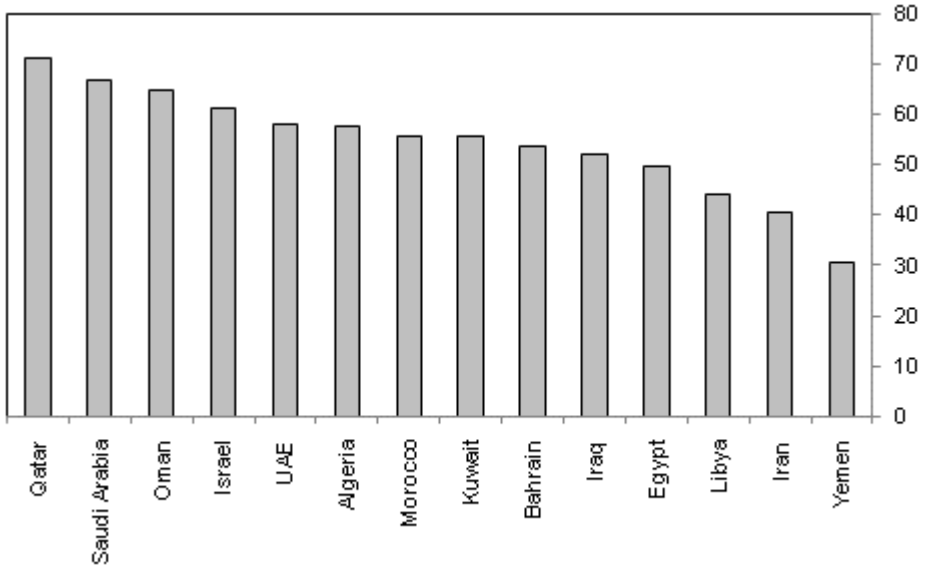
Source: BMI

The election of President Abdel Fattah al-Sisi in May 2014 has been a positive development for Egypt's infrastructure sector. President Sisi has indicated that infrastructure development is a top priority for his government which is materialising through a series of announcements, including plans to expand the Suez Canal and build 1mn houses. In addition, the government of President Sisi has improved perceived security and political stability and we expect support for infrastructure projects to continue. As such, Egypt scores 49.7 out of 100 in our RRIs for the region.

Israel continues to prove the lowest risk country in the region for infrastructure investment, with a strong Risks score of 73.2, well above the regional average of 56.6. With regards to the country's Rewards score, there is a considerable upside risk thanks to the highly promising gas sector.

Maintaining GCC Leadership

MENA Infrastructure RRI



Source: BMI

Opportunities For All Risk Appetites In The GCC

The GCC countries - Qatar, Saudi Arabia, Oman, UAE, Bahrain and Kuwait - continue to outperform the region in terms of high rewards and low risks. The majority of GCC countries (except Saudi Arabia) have relatively small construction industries, yet a strong stream of sovereign wealth fund financed projects backed up by relatively transparent institutions. This means investors will continue to reap the benefits of these countries for the foreseeable future.

However, the sheer size of GCC members' ambitious infrastructure spending programmes, particularly in Saudi Arabia and Qatar, are leading to shortages, delays and price inflation, which we expect to continue and even accelerate over the medium term. These weaknesses will be magnified by Qatar's World Cup preparations, a recovery in the UAE's construction sector, Dubai winning the rights to host the World Expo, and the huge investment that is being ploughed into rail projects.

With regards to Qatar, the country stormed to the top of our Index table at the start of 2012 and it has remained comfortably there, supported by a number of mega-projects with the World Cup acting as a fixed

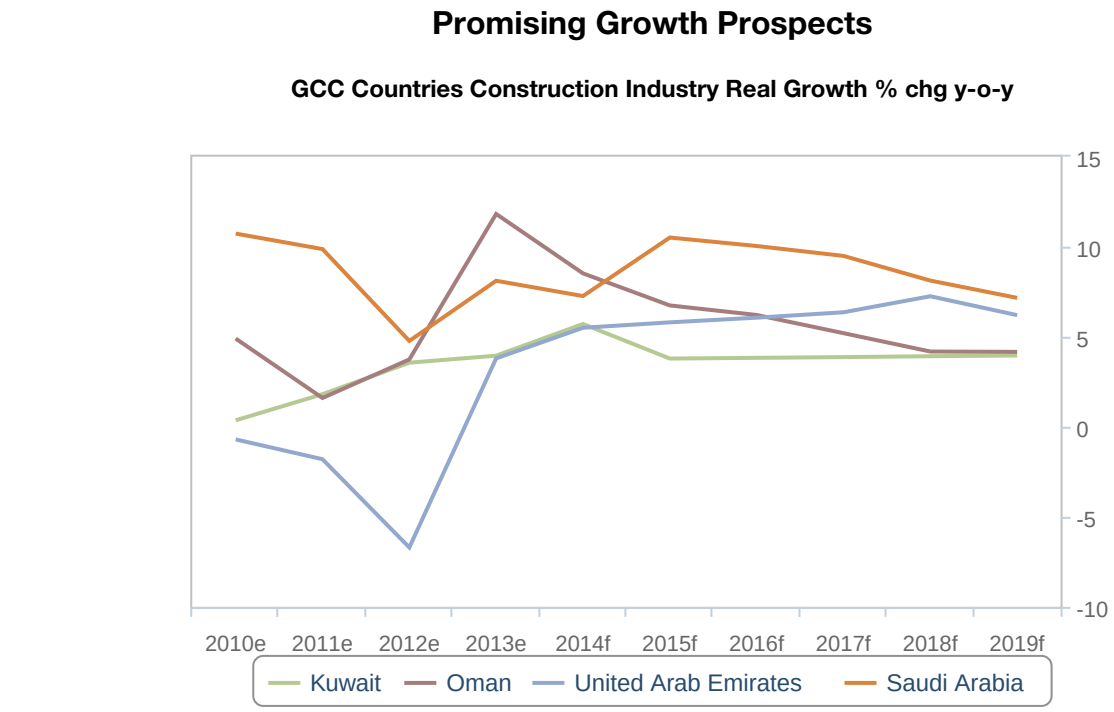
deadline in 2022. We believe the country has made a credible commitment to infrastructure spending and that expenditure will reach over USD150bn during the next five years, providing a significant boon to companies looking to invest in the region. In addition, strong economic growth in the country owing to its vast natural gas reserves, a fast-growing population and an increasingly diverse economy bode well for our medium-to-long term forecast.

However, we identify a potential downside risk to Qatar's business environment derived from recent accusations of poor worker conditions, corruption allegations surrounding the FIFA World Cup, and rising price inflation caused by materials shortages. The country's labour market has been scrutinised by the international media and we expect this trend to continue.

Saudi Arabia's construction labour market has also made the headlines. The 'Saudisation' policy, which is a drive to replace expat workers with Saudi nationals, while at the same time removing illegal migrants, has seen hundreds of thousands of people leave the kingdom. The policy has had a strong impact in the construction sector due to the number of expat workers and the lack of appetite from Saudi nationals for these jobs. However, market players are slowly adapting to the new rules and in line with our view, the government has intervened to soften the impact of this policy by reducing labour costs for small contractors.

Although the Saudi labour market represents a downside risks to our Index, the country continues to perform well on the back of a strong project pipeline as part of the kingdom's USD385bn Development Plan. In addition, we believe incremental reforms, partially affected by pressures unleashed during the Arab Spring, have the potential to raise the country's business environment Index for the foreseeable future.

As for the UAE, the emirates continue to report strong activity in the construction sector as a result of significant public spending and a growing tourism sector. However, we are now seeing a moderation in the scale of future projects, in line with a more realistic demand picture.



e/f = BMI estimate/forecast. Source: National Statistics Agencies, BMI

North Africa Remains Highly Volatile

The major political upheavals of the Arab Spring have been a reminder of the pivotal role that political risk plays in shaping the infrastructure landscape for investors. Here, Tunisia, Libya, and Egypt serve as poignant examples. However, despite the high political risk, these markets offer huge potential in energy infrastructure projects, flowing from national reconstruction and modernisation efforts.

Gulf countries, and to a lesser extent the US, have shown a significant interest in the sub-region's infrastructure development. This growing interest in North Africa is reflected in Morocco's upswing, with many trying to secure first-mover advantage. Despite the construction sector having entered a recession in 2013, we expect a sharp rebound in 2014 to be maintained towards 2015. This will be primarily due to investments in the power sector, as the country seeks to break its reliance on imported fuels. In addition, high-speed rail projects continue to advance in the country and a major new housing plan targeting the middle class was launched in February 2014. As such, Morocco ranks seventh out of 14 countries in our MENA RRI this quarter, with a score of 55.7.

Iran's Potential To Be Unlocked

In recent quarters, Iran' score has improved considerably. Our outlook for the Iranian construction industry in the short-to-medium term is turning more optimistic on the back of easing economic sanctions from the West related to Iran's nuclear programme, low base effects and high demand for infrastructure projects. In addition, the partial lifting of sanctions and the possibility of a permanent agreement has attracted the interest of foreign construction companies that are keen to invest in Iran. Should a long-term agreement be reached, we will see one of the biggest markets in the Middle East open up - with outdated infrastructure presenting numerous opportunities to investors. However, we are still cautious over Iran's macroeconomic picture and its opaque regulatory environment.

Table: MENA Infrastructure Risk / Reward Index

	Rewards			Risks				
	Industry Rewards	Country Rewards	**Rewards**	Industry Risks	Country Risk	**Risks**	**Infrastructure Risk Rewards Index**	**Regional Ranking**
Qatar	70.0	74.2	**71.5**	75.0	67.1	**70.3**	**71.1**	**1**
Saudi Arabia	67.5	58.3	**64.3**	75.0	70.8	**72.5**	**66.7**	**2**
Oman	62.5	60.7	**61.9**	82.5	63.3	**71.0**	**64.6**	**3**
Israel	42.5	80.9	**55.9**	75.0	72.0	**73.2**	**61.1**	**4**
UAE	57.5	57.3	**57.4**	45.0	68.6	**59.2**	**58.0**	**5**
Algeria	67.5	44.7	**59.5**	47.5	57.6	**53.6**	**57.7**	**6**
Morocco	55.0	61.8	**57.4**	55.0	49.5	**51.7**	**55.7**	**7**
Kuwait	42.5	71.3	**52.6**	57.5	66.1	**62.7**	**55.6**	**8**
Bahrain	35.0	65.8	**45.8**	77.5	68.0	**71.8**	**53.6**	**9**
Iraq	67.5	39.7	**57.8**	32.5	41.9	**38.1**	**51.9**	**10**
Egypt	45.0	54.8	**48.4**	55.0	51.0	**52.6**	**49.7**	**11**
Libya	52.5	36.7	**47.0**	32.5	41.5	**37.9**	**44.2**	**12**
Iran	37.5	42.7	**39.3**	35.0	48.9	**43.3**	**40.5**	**13**
Yemen	35.0	18.3	**29.1**	37.5	31.6	**34.0**	**30.6**	**14**
Regional Average	***52.7***	***54.8***	***53.4***	***55.9***	***57.0***	***56.6***	***54.4***	

Source: BMI

Market Overview

Competitive Landscape

Iran's business environment remains opaque and difficult to penetrate for any outside investors. China and Russia are, by and large, the only two countries with a continued international presence. Both countries have vested interests in Iran, in terms of geopolitics and commodities trade, and therefore have contributed heavily to fund major infrastructure projects.

Most projects have so far been geared towards Iran's relatively well developed transport system. There are 8,442km of railways, most of which are single-track, and 198,866km of roads, 80% of which are paved. There are many airports in the country, although the majority have unpaved runways.

Furthermore, Iran has a number of ports, though many areas of the Caspian Sea and Persian Gulf are politically sensitive. The waters around the islands of Abu Musa and the Tunbs in the southern Persian Gulf are particularly sensitive and are militarised. Normalising international relations would allow Iran to attract investment into its ports and benefit significantly from international trade.

In terms of the domestic construction industry, it has been criticised for having poor building standards. Constructors are unwilling to invest money in modern technologies, building codes are widely disregarded, and municipal governments have failed to enforce them or to run a proper inspection system.

Table: Iran EQS Data

Name	Latest FY Earnings	Market Cap (USD)	Revenue (USD)	Net income (USD)	Total Debt/ Ebitda	Interest Coverage Ratio	PE Ratio
Bilfinger SE	Dec-13	3,915.184	11,177.23	229.5327	1.171931	6.839207	18.78042
China Gezhouba Group Co Lt-A	Dec-13	2,992.048	9,451.459	257.7764	6.434991	2.630941	8.593636
China National Chemical-A	Dec-13	4,624.588	9,858.729	546.2827	0.388645	83.93265	8.399078
China Railway Group Ltd-H	Dec-13	10,330	87,901.53	1,524.793	7.909041	1.513439	7.747057
Daelim Industrial Co Ltd	Dec-13	3,102.299	7,715.807	151.5901	5.19945	3.98233	120.0787
Maire Tecnimont SPA	Dec-13	836.1028	2,089.343	22.51758	4.673288	2.164157	32.53397
Saipem SPA	Dec-13	10,946.62	16,279.82	-211.202	7.021814	0.864706	n/a
Power Construction Corp Of-A	Dec-13	n/a	22,920.97	741.0872	6.473452	2.453019	n/a
Vinci SA	Dec-13	43,351.88	53,581.54	2,606.152	3.704007	5.266667	14.79272
Shanghai Construction Group	Dec-12	n/a	14,469.45	253.5607	6.159889	3.884851	n/a
Posco Engineering & Construction	Dec-13	n/a	7,337.886	90.2254	1.969822	13.84016	n/a

n/a = not available. Source: Bloomberg

Company Profile

Iran Power Plant Projects Management Co. (Mapna)

Strengths

- Mapna is one of the largest contractors of power and industrial projects in Iran, with 29 subsidiary companies.
- Iran's government is reportedly planning heavy investment in the electricity sector.
- Well diversified by sector.

Weaknesses

- Sanctions, coupled with the global economic downturn and high inflation have helped to create a dire fiscal situation in Iran, which restricts public investment in infrastructure.

Opportunities

- With Iranian electricity demand rising rapidly, there is scope for constructing new power plants, and Mapna is at the forefront of this.

Threats

- International pressure on Iran regarding its nuclear ambitions could derail the economy and restrict Mapna's international expansion.

Company Overview

Mapna, formed in 1993, is a major state-owned Iranian industrial conglomerate with 29 subsidiaries operating in the power, oil, railway and infrastructure sectors. In terms of infrastructure, the company specialises in power, oil and gas, and petrochemicals projects, as well as railway transportation projects. The company has also expanded into operational and maintenance services to enable it to secure more international projects.

Strategy

Mapna's strategy appears to be one of international expansion. As well as power plants in Sri Lanka and India, the company has also been awarded the contract for the 324MW Najaf power plant, as well as the 324MW Al-Emarah Power plant, both of which are in Iraq. **BMI** believes that the reconstruction of Iraq could be a strong area of growth for Mapna, as the country looks to repair its shattered infrastructure.

However, Mapna's biggest projects remain in Iran. These include the Khouzestan Steel Complex Combined Cycle Power Plant, with a capacity of 968MW. The company is also negotiating a major deal to construct a massive combined-cycle power plant with a

capacity of 2,100MW. With the country's growing demand for electricity, we believe Mapna's main focus will be domestic over the forecast period.

Recent Developments

In January 2014, it was announced that Mapna signed a contract with the National Iranian South Oilfields Company (NISOC) to produce 250 raw materials of Rolls-Royce turbine in the next twenty months.

In addition, according to Fars News Agency, Mapna was awarded the construction of a new gas refinery in Qeshm Island in July 2013. The refinery will have a capacity of 80mn cubic feet of gas per day and the company is expected to invest USD200mn in the project.

Also, in June 2013, Mapna offered to start supplying Pakistan with electricity in order to prevent an energy crisis. According to the Daily Times, Pakistan's currently shortfall is 7,000MW and Mapna has the capacity to produce up to 10,000MW for the neighbouring country. This could be the beginning of a series of investments of Mapna in Pakistan's infrastructure.

In the last few years, Mapna has financed 10 independent power projects (IPPs), including the South Isfahan (954MW), Tous (954MW) and Asalouyeh (954MW) plants. It is also in the process of developing the Mobin Gas Utility Power Plant (1,944MW), as well as power plants in Sri Lanka and Syria. In addition, in September 2008, Mapna agreed a deal with Iran National Petrochemical (NPC) to construct the first phase of the EUR1.2bn Damavand Petrochemical Complex. NPC is to provide 80% of the funding, with Mapna supplying the remainder.

Abbas Aliabadi, the managing director of the group, said to Zawya in July 2013 that the group owns power plants that produce 8,000MW of electricity of which 2,000 MW pertain to Parand and Sanandaj power plants. He also added that the government debt to Mapna had reached IRR30tr in March 2013 that if paid, would be an important liquidity source for the firm.

Since 1993, the company has undertaken projects worth EUR17bn, in terms of power projects, and has been responsible for building 86% of Iran's total grid capacity, representing 52,000MW. Turnover is about EUR4bn per year.

Outside of Iran, Mapna is also pursuing opportunities in the power sector. In August 2014, the company submitted a statement of qualification to build two power plants in Oman. The winner will be granted a licence to develop, design, finance, engineer, build, own, operate and maintain two independent power projects with a total capacity of 2,650MW at two locations in northern Oman.

Mapna has also been active in the rail sector for 15 years and is currently completing a project involving the construction of 200 locomotive units, through a partnership with Germany's Siemens. Mapna is also contracted to produce three locomotives per month for the Iran Railway Company.

In July 2014, a consortium comprising Mapna, Mapna Rail Construction and Development, Mapna International, CMC and SuPower secured financial approval for

the 900km Tehran-Mashhad railway project in Iran. The two Chinese companies - CMC and SuPower - will invest USD2bn in the project. Work under the engineering, procurement and construction (EPC) contract includes the renovation of the existing structure as well as the construction of an electrified railway network for trains with speeds exceeding 250km per hour.

Global Industry Overview

BMI View: *By 2023, the construction industry landscape will have changed, from one dominated by developed markets, to one where emerging markets are breaking through and able to offer both the scale to rival developed markets, in addition to the growth opportunities traditionally associated with them. BMI's 10-year construction forecasts provide significant insight into where the greatest opportunities for scale and growth lie in the global construction sector.*

Based on our 10 year construction forecasts, we believe that emerging markets are set to play a greater role in the global construction sector over the coming decade, and in addition to offering growth opportunities for investors, will also start to offer the scalability traditionally associated with developed markets. Factoring in both real industry value growth and nominal industry value to gauge the size of the industry by 2023, we highlight five markets which will offer both scale and growth over a 10 year horizon: **Saudi Arabia**, **Colombia**, **India**, **Indonesia** and **Nigeria**.

Size and scale has to be counter-balanced by risk premium. Emerging markets will continue to present significant barriers to entry and risks in terms of in the operating environment. Using **BMI**'s Infrastructure Risk/Reward Index, **Saudi Arabia** and **India** emerge among our chosen markets as those offering the most optimal balance of opportunities and risks.

Real Value Growth: The Real Growth Story

A high level of growth is a primary goal for many companies looking to international markets - especially those looking to escape anaemic growth in their domestic markets.

We do note that many of the emerging markets which are set to become major construction markets according to our forecasts will undoubtedly be subject to macroeconomic volatility over the coming decade.

In particular, as we have seen in numerous emerging markets over 2013/14, such as South Africa and Turkey, currency fluctuations, inflation and associated interest rate volatility can be particularly perilous for emerging markets. Using **BMI**'s *real* industry value forecast data, we are able to strip away inflationary effects which distort market values to give a picture which better reflects industry dynamics and therefore highlights markets which are most attractive for those looking for growth opportunities.

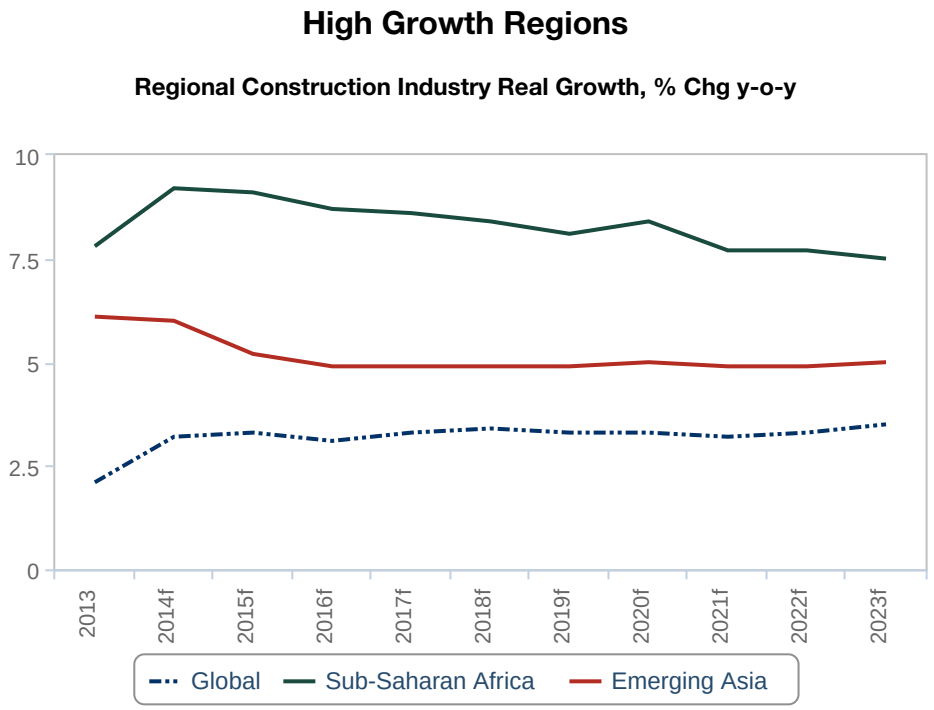
Table: Construction Industry Value, Real Terms, % Change

	Construction Market Value, Real Growth, % Chg (2013/2023f)
Nigeria	**216.0**
Myanmar	169.6
Botswana	163.7
Namibia	163.6
Cambodia	144.9
Qatar	135.5
Tanzania	129.9
Saudi Arabia	**126.7**
Angola	116.4
Cote d`Ivoire	114.5
Indonesia	**108.2**
Zambia	104.2
Philippines	102.2
Cameroon	101.6
Uganda	101.1
Kenya	98.2
Colombia	**97.7**
Mozambique	91.5
Ireland	86.1
India	**85.4**

f=BMI forecast. Source: BMI, Central Banks, National Statistics

Of the top 20 markets in terms of strongest real construction industry value growth between 2013 and 2023, Sub-Saharan African (SSA) markets feature heavily. Nigeria's construction industry is set to grow by 216% in real terms between 2013 and 2023. This growth is particularly impressive considering Nigeria's construction industry at a value of USD16.8bn recently overtook South Africa's (USD11.8bn) as the largest in SSA (*see 'Construction To Benefit From More Diverse Economy', April 30 2014*). Across the region, we are forecasting some of the highest construction industry growth rates globally and note that markets such as Botswana and Namibia feature near the top of the table in terms of growth.

Emerging Asia also features prominently, with Myanmar, Cambodia and the Philippines all more than doubling their real construction industry values over the next 10 years.



f=BMI forecast. Source: BMI

Nominal Value: Industry Size Presents Opportunities For Scale

Looking at the largest construction markets in nominal gross value added terms, the top 10 largest markets in 2013 remained overwhelmingly developed markets (with the notable exceptions of China, India and Russia). Expanding this out to the top 20, we see a higher number of emerging markets breaking through, such as Mexico and Brazil.

Top 20 Construction Markets, 2013 and 2023

Nominal Construction Industry Values, 2013 and 2023f

Rank	2013	Value USDbn	Rank	2023f	Value USDbn
1	China	634.2	1	China ↑	1260.5
2	United States	611.4	2	United States	805.1
3	Japan	286.1	3	India ↑	380.1
4	Germany	152.9	4	Japan ↓	364.5
5	France	150.3	5	Indonesia ↑	285
6	India	139.7	6	United Kingdom ↑	249.9
7	United Kingdom	134.1	7	Brazil ↑	249.1
8	Canada	131.2	8	Russia ↑	242.5
9	Russia	130.5	9	Mexico ↑	195.5
10	Australia	115.2	10	France ↓	193.8
11	Italy	103.6	11	Germany ↓	193.4
12	Brazil	102.7	12	Canada ↓	192.2
13	Spain	102.4	13	Australia ↓	162.9
14	Mexico	91.1	14	Spain ↓	138.7
15	Indonesia	86.8	15	Italy ↓	125.3
16	South Korea	59.1	16	Saudi Arabia ↑	116.1
17	U.A.E	36.2	17	South Korea ↓	92.4
18	Turkey	35.7	18	Colombia↑	91.9
19	Saudi Arabia	35.7	19	**Nigeria ↑**	83.6
20	Colombia	32.6	20	**Venezuela ↑**	81.4

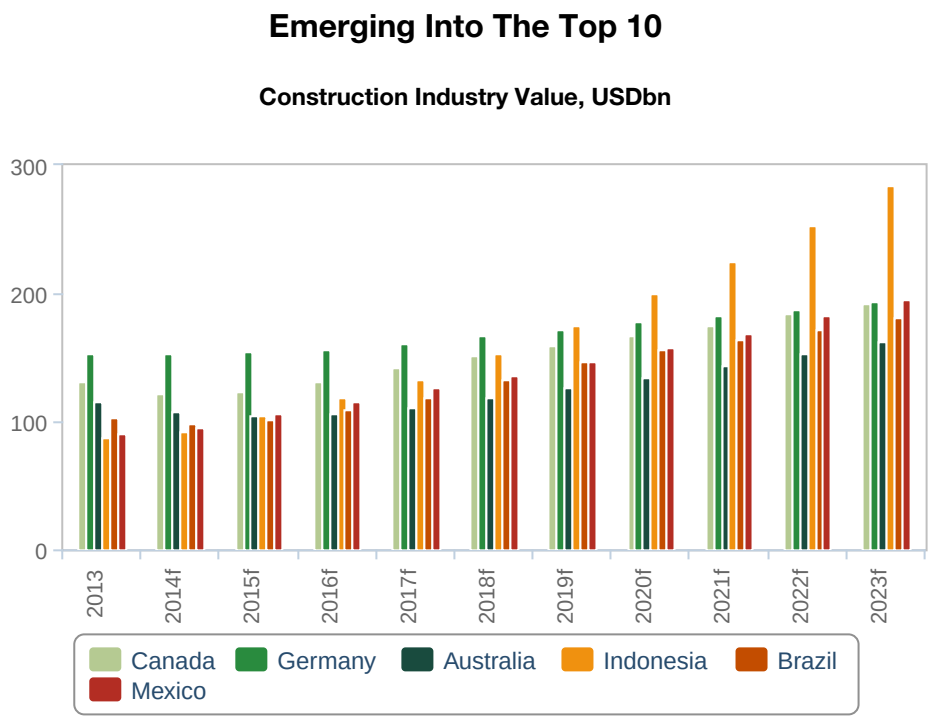
Source: BMI

A Decade Of Change

Using **BMI**'s 10 year construction industry value forecasts we can gain a valuable insight into which markets will offer the scale that developed markets currently offer, as well as potentially the growth.

Making their entrance to the top 10 largest markets by 2023 are major emerging markets Brazil, Indonesia and Mexico, at the expense of developed markets Germany, Australia and Canada. Although by no means the fastest growing emerging markets, our positive view on their infrastructure development, attractive demographics and growth potential mean that by 2023 they will be some of the world's largest construction markets, offering significant opportunities for new entrants. In comparison, we hold less buoyant outlooks for construction in Germany on account of a lack of investment and a poor demographic trajectory, and while Australia and Canada will continue to benefit from resource driven infrastructure investment over the

coming years, they are saturated markets in comparison to the emerging markets in terms of scale of opportunity.



f=BMI forecast. Source: BMI

In the top 20 by 2023, we note that Saudi Arabia and Colombia have climbed the most and highlight two new entrants - Nigeria and Venezuela - although notably the latter is somewhat distorted due to high levels of inflation. While we are forecasting some of the strongest short-term growth globally within the Gulf Cooperation Council (GCC), we hold the view that only Saudi Arabia has the market scale to offer truly long-term opportunities (see 'Questionable Sustainability Of Buoyant Pipeline', January 31 2014). As such, it comes as no surprise that the UAE will actually fall out of the top 20 largest construction markets by 2023. Colombia benefits from similar attributes to Brazil and Mexico, in that the government has committed heavily to infrastructure spending, but importantly is being more successful in using the private sector to deliver projects (see 'Positive Growth Story Built On Solid Ground', September 12 2014).

Options For Scale And Growth

Looking at those markets which will offer scale by 2023, along with those markets which will offer the greatest potential for growth, it is possible to choose our top five markets offering both the scale to attract new entrants and the growth to provide sustainable opportunities over the ten year horizon: **India**, **Indonesia**, **Brazil**, **Colombia** and **Saudi Arabia** .

Table: BMI's Top 5 Markets

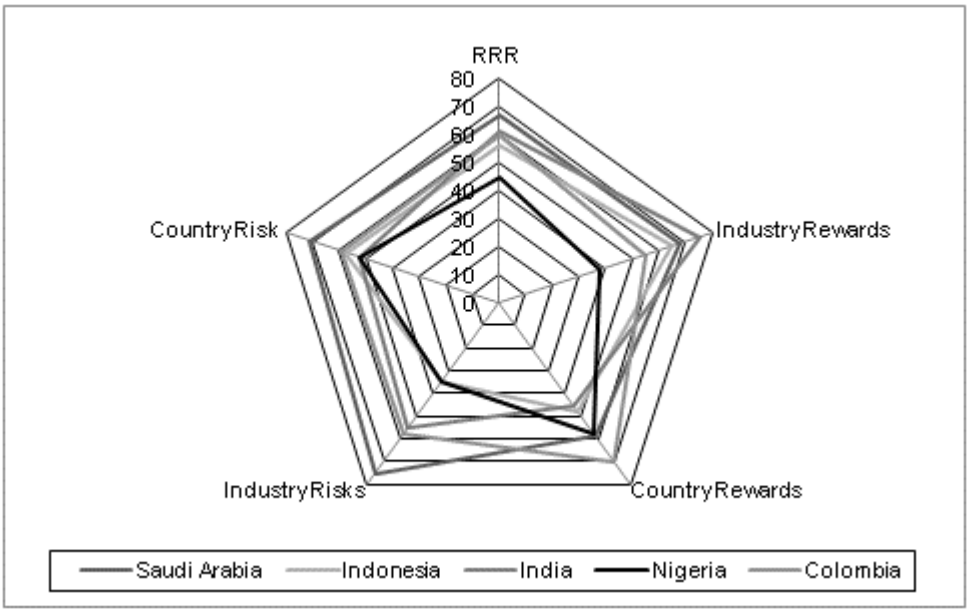
	Construction Market Value, Real Growth, % Chg (2013/2023f)	Nominal Market Value USDbn, 2023f	Nominal Market Value Global Rank, 2023
India	85.4	380.1	3
Indonesia	108.2	285.0	5
Saudi Arabia	126.7	116.1	16
Colombia	97.7	91.9	18
Nigeria	216.0	83.6	19

Source: BMI

As previously mentioned, despite offering substantial opportunities for growth, some of these markets listed above are subject to higher risks. Although we have stripped away some degree of volatility by factoring in real growth, many of the markets will be subject to a multitude of business environment risks which are not evident in looking at their sheer size alone. As such, using **BMI**'s Infrastructure Risk/Reward Index (RRIs) we highlight Saudi Arabia and India as offering the most attractive risk profiles among high growth markets. We therefore believe that these markets should be among the top picks forice markets for investors and companies looking at their long-term strategies.

Markets Offering Growth And Scale

Infrastructure Risk/Reward Ratings Scores



Notes: Scores 1-100 (best). Source: BMI Infrastructure Risk/Reward Ratings

Methodology

Industry Forecast Methodology

BMI's Industry forecasts are generated using the best-practice techniques of time-series modelling and causal/econometric modelling. The precise form of model we use varies from industry to industry, in each case being determined, as per standard practice, by the prevailing features of the industry data being examined.

Common to our analysis of every industry, is the use of vector autoregressions. Vector autoregressions allow us to forecast a variable using more than the variable's own history as explanatory information. For example, when forecasting oil prices, we can include information about oil consumption, supply and capacity.

When forecasting for some of our industry sub-component variables, however, using a variable's own history is often the most desirable method of analysis. Such single-variable analysis is called univariate modelling. We use the most common and versatile form of univariate models: the autoregressive moving average model (ARMA).

In some cases, ARMA techniques are inappropriate because there is insufficient historic data or data quality is poor. In such cases, we use either traditional decomposition methods or smoothing methods as a basis for analysis and forecasting.

We mainly use OLS estimators and in order to avoid relying on subjective views and encourage the use of objective views, we use a 'general-to-specific' method. **BMI** mainly uses a linear model, but simple non-linear models, such as the log-linear model, are used when necessary. During periods of 'industry shock', for example poor weather conditions impeding agricultural output, dummy variables are used to determine the level of impact.

Effective forecasting depends on appropriately selected regression models. We select the best model according to various different criteria and tests, including but not exclusive to:

- R^2 tests explanatory power; adjusted R^2 takes degree of freedom into account
- Testing the directional movement and magnitude of coefficients
- Hypothesis testing to ensure coefficients are significant (normally t-test and/or P-value)
- All results are assessed to alleviate issues related to auto-correlation and multi-collinearity

BMI uses the selected best model to perform forecasting.

It must be remembered that human intervention plays a necessary and desirable role in all of our industry forecasting. Experience, expertise and knowledge of industry data and trends ensure that analysts spot structural breaks, anomalous data, turning points and seasonal features where a purely mechanical forecasting process would not.

Sector-Specific Methodology

Construction Industry

Construction Industry Value

Our data is derived from GDP by output figures from each country's national statistics office (or equivalent). Specifically, it measures the output of the construction industry over the reported 12-month period in nominal values (ie domestic currency terms). As it is derived from GDP data, it is a measure of value added within the industry (ie the additional contribution of the construction industry over other industries, such as cement production). Consequently, it does not measure the nominal value of all inputs used in the construction industry, which, for most states would increase the overall figure by 50-60%. Furthermore, it is important to note that the data does not provide an indication of the total value of a country's buildings, only the construction sector's output in a given year.

This data is used because it is reported by virtually all countries and can therefore be used for comparative purposes.

Construction Industry Value Real Growth

Our data and forecasts for real construction measures the real increase in output (rather than nominal growth, which would also incorporate inflationary increases). In short, it is an inflation-adjusted value of the output of the construction industry year-on-year. Consequently, real growth will be lower than the nominal growth of our 'construction value' indicator, except in instances where deflation is present in the industry.

Data for this is sourced from the constant values for construction value added, using the same sources noted above. We use officially calculated data to accurately account for inflation specific to the construction industry.

Construction Industry, % Of GDP/Construction Value (USD)

These are derived indicators. We use BMI's Country Risk team's GDP and exchange rate forecasts to calculate these indicators.

Capital Investment

Total Capital Investment

Our data is derived from GDP by expenditure data from each country's national statistics office (or equivalent). It is a measure of total capital formation (excluding stock build) over the reported 12-month period. Total capital formation is a measure of the net additions to a country's capital stock, so takes into account depreciation as well as new capital. In this context, capital refers to structures, equipment, vehicles etc. As such, it is a broader definition than construction or infrastructure, but is used by **BMI** as a proxy for a country's commitment to development.

Capital Investment (USD), % Of GDP, Per Capita

These are derived indicators. We use our Country Risk team's population, GDP and exchange rate forecasts to calculate them. As a rule of thumb, we believe an appropriate level of capital expenditure is 20% of GDP, although in rapidly developing emerging markets it may, and arguably should, account for up to 30%.

Government Capital Expenditure

This is obtained from government budgetary data and covers all non-current spending (ie spending on transfers, salaries to government employees, etc). Due to the absence of global standards for reporting budgetary expenditure, this measure is not as comparable as construction/capital investment.

Government Capital Expenditure, USDbn, % Of Total Spending

These are derived indicators.

Construction Sector Employment

Total Construction Employment

This data is sourced from either the national statistics office or the International Labor Organization (ILO). It includes all those employed within the sector.

Construction Employment, % y-o-y; % Of Total Labour Force

These are derived indicators.

Average Wage In Construction Sector

This data is sourced from either the national statistics office or the ILO.

Infrastructure Data Sub-Sectors

BMI's Infrastructure data examines the industry from the top down and bottom up in order to calculate the industry value of infrastructure and its sub-sectors. We use a combination of historic data as reported by the central banks, national statistics agencies and other official data sources, and **BMI**'s Infrastructure Key Projects Database tool.

Where possible we source historic data for the relative portion of either infrastructure spend or value generated by the various sub-sectors we classify as infrastructure. We seek to segment official infrastructure data into pre-set categories classified by us, across all countries, in order to optimise the ability to compare industry value across the sub-sectors of infrastructure. We then apply ratios to the infrastructure subsector value in order to derive the value. Real growth is calculated using the official construction inflation rate.

In those instances where historic data is not available, we use a top down and bottom up approach incorporating full use of **BMI**'s Infrastructure Key Projects Database, in most cases dating back to 2005. This allows us to calculate historical ratios between general infrastructure industry value and its sub-sectors,

which we then use for forecasting. Our Key Projects Database is not exhaustive, but it is comprehensive enough to provide a solid starting point for our calculations.

The top down approach uses data proxies. We have separated countries into three tiers. Each tier comprises a group of countries on a similar economic development trajectory and with similar patterns in terms of infrastructure spending, levels of infrastructure development and sector maturity. This enables us to confirm and overcome any deficiencies of infrastructure-specific data by applying an average group ratio (calculated from the countries for which official data exists) to the countries for which data is limited.

- Tier I - Developed States. Common characteristics include:
  - Mature infrastructure markets;
  - Investments typically target maintenance of existing assets or highly advanced projects at the top of the value chain;
  - Infrastructure as percent of total construction averages around 30%.
  - Tier I countries: Canada, Germany, Greece, UK, US, France, Hong Kong, Taiwan, Singapore, Israel, Japan, Australia.
- Tier II - Core Emerging Markets. Common characteristics include
  - The most rapidly growing emerging markets, where infrastructure investments are a government priority;
  - Significant scope for new infrastructure facilities from very basic levels (eg highways, heavy rail) to more high value projects (renewables, urban transport);
  - Infrastructure as percent of total construction averages around 45% and above.
  - Tier II countries: Colombia, Malaysia, Mexico, South Korea, Peru, Philippines, Turkey, Vietnam, Poland, Hungary, South Africa, Nigeria, Russia, China, India, Brazil, Indonesia.
- Tier III- Emerging Europe. Common characteristics include:
  - Regional socioeconomic trajectories;
  - Development defined by recent or pending accession to European structures such as the EU. Infrastructure development to a large degree dictated by EU development goals and financed through vehicles such as the PHARE and ISPA programmes, and institutions such as the EBRD and EIB;
  - Infrastructure as percent of total construction averages between 30% and 40%.
  - Tier III countries: Czech Republic, Romania, Bulgaria, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Croatia, Ukraine.

This methodology has enabled us to calculate infrastructure industry values for states where this was not previously possibly. Furthermore, it has enabled us to create comparable indicators.

The top down hypothesis-led approach has been used solely to calculate the infrastructure industry value as a percentage of total construction. For all sub-sector calculations we apply the bottom-up approach, ie calculating the ratios from our Key Projects Database where data was not otherwise available.

Risk/Reward Index Methodology

BMI's Risk/Reward Index (RRI) provide a comparative regional ranking system evaluating the ease of doing business and the industry-specific opportunities and limitations for potential investors in a given market.

The RRI system divides into two distinct areas:

Rewards: Evaluation of sector's size and growth potential in each state, and also broader industry/state characteristics that may inhibit its development. This is further broken down into two sub categories:

- Industry Rewards (this is an industry-specific category taking into account current industry size and growth forecasts, the openness of market to new entrants and foreign investors, to provide an overall score for potential returns for investors).
- Country Rewards (this is a country-specific category, and the score factors in favourable political and economic conditions for the industry).

Risks: Evaluation of industry-specific dangers and those emanating from the state's political/economic profile that call into question the likelihood of anticipated returns being realised over the assessed time period. This is further broken down into two sub categories:

- Industry Risks (this is an industry-specific category whose score covers potential operational risks to investors, regulatory issues inhibiting the industry, and the relative maturity of a market).
- Country Risks (this is a country-specific category in which political and economic instability, unfavourable legislation and a poor overall business environment are evaluated to provide an overall score).

We take a weighted average, combining industry and country risks, or industry and country rewards. These two results in turn provide an overall Risk/Reward Index, which is used to create our regional ranking system for the risks and rewards of involvement in a specific industry in a particular country.

For each category and sub-category, each state is scored out of 100 (100 being the best), with the overall Risk/Reward Index a weighted average of the total score. Importantly, as most of the countries and territories evaluated are considered by us to be 'emerging markets', our score is revised on a quarterly basis. This ensures that the score draws on the latest information and data across our broad range of sources, and

the expertise of our analysts. Our approach in assessing the Risk/Reward balance for infrastructure industry investors globally is fourfold:

- First, we identify factors (in terms of current industry/country trends and forecast industry/country growth) that represent opportunities to would-be investors.
- Second, we identify country and industry-specific traits that pose or could pose operational risks to would-be investors.
- Third, we attempt, where possible, to identify objective indicators that may serve as proxies for issues/ trends to avoid subjectivity.
- Finally, we use **BMI**'s proprietary Country Risk Index (CRI) in a nuanced manner to ensure that only the aspects most relevant to the infrastructure industry are incorporated. Overall, the system offers an industry-leading, comparative insight into the opportunities/risks for companies across the globe.

Sector-Specific Methodology

In constructing these indices, the following indicators have been used. Almost all indicators are objectively based.

Indicators

Table: Infrastructure Risk/Reward Index Indicators

	Rationale
Rewards	
Industry rewards	
Construction expenditure, USDbn	Objective measure of size of sector. The larger the sector, the greater the opportunities available.
Sector growth, % y-o-y	Objective measure of growth potential. Rapid growth results in increased opportunities.
Capital investment, % of GDP	Proxy for the extent the economy is already oriented towards the sector.
Government spending, % of GDP	Proxy for extent to which structure of economy is favourable to infrastructure/
Country rewards	
Labour market infrastructure	From BMI's Country Risk Index (CRI). Denotes availability/cost of labour. High costs/low quality will hinder company operations.
Financial infrastructure	From CRI. Denotes ease of obtaining investment finance. Poor availability of finance will hinder company operations across the economy.
Access to electricity	From CRI. Low electricity coverage is proxy for pre-existing limits to infrastructure coverage.
Risks	
Industry risks	

Infrastructure Risk/Reward Index Indicators - Continued	
	Rationale
No. of companies	Subjective evaluation against BMI-defined criteria. This indicator evaluates barriers to entry.
Transparency of tendering process	Subjective evaluation against BMI-defined criteria. This indicator evaluates predictability of operating environment.
Country risks	
Structure of economy	From CRI. Denotes health of underlying economic structure, including seven indicators such as volatility of growth; reliance on commodity imports, reliance on single sector for exports.
External risk	From CRI. Denotes vulnerability to external shock - principal cause of economic crises.
Policy continuity	Subjective score from CRI. Denote predictability of policy over successive governments.
Legal framework	From CRI. Denotes strength of legal institutions in each state. Security of investment can be a key risk in some emerging markets.
Corruption	From CRI. Denotes risk of additional illegal costs/possibility of opacity in tendering/business operations affecting companies' ability to compete.

Source: BMI

Weighting

Given the number of indicators/datasets used, it would be inappropriate to give all sub-components equal weight. Consequently, the following weighting has been adopted:

Table: Weighting Of Indicators	
Component	**Weighting, %**
Rewards	70, of which
- Industry rewards	65
- Country rewards	35
Risks	30, of which
- Industry risks	40
- Country risks	60

Source: BMI