

CEMENT



JUNE 2017 (As of 9 June 2017)

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CEMENT



CONTENTS

- ❖ [Executive Summary..... 3](#)
- ❖ [Advantage India..... 4](#)
- ❖ [Market Overview and Trends.....6](#)
- ❖ [Porters Five Forces Analysis19](#)
- ❖ [Strategies Adopted21](#)
- ❖ [Growth Drivers..... 23](#)
- ❖ [Opportunities..... 31](#)
- ❖ [Success Stories..... 34](#)
- ❖ [Useful Information..... 37](#)



EXECUTIVE SUMMARY

Second largest cement market

- With cement production capacity of nearly 420 million tonnes, as of FY2016--17, India was the 2nd largest cement producer in the world. The country's cement production capacity is projected to further increase to 550 million tonnes by 2025.

Dominated by private players

- Of the total capacity, 98 per cent lies with the private sector & the rest with public sector, with the top 20 companies accounting for around 70 per cent of the total production

Higher share of large plants

- 210 large cement plants account for a cumulative installed capacity of over 350 million tonnes, while over 350 mini cement plants have an estimated production capacity of nearly 11.10 million tonnes, as of 2016

Large concentration in South and West

- Of the total 210 large cement plants in India, 77 are situated in the states of Andhra Pradesh, Rajasthan & Tamil Nadu.

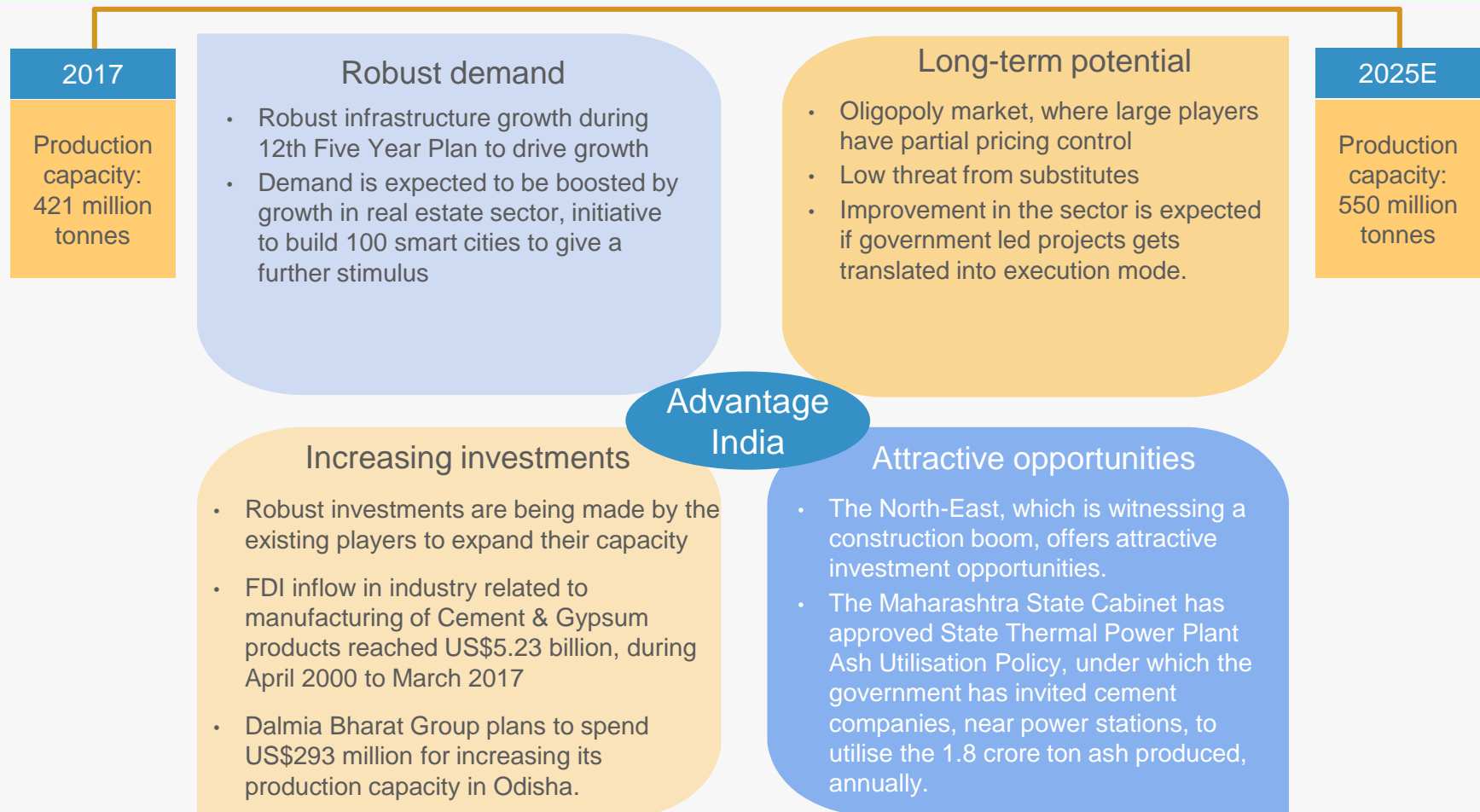
Source: Business Standard, Ministry of External Affairs, TechSci Research, Ministry of External Affairs (Investment and Technology Promotion Division)

CEMENT



ADVANTAGE INDIA

ADVANTAGE INDIA



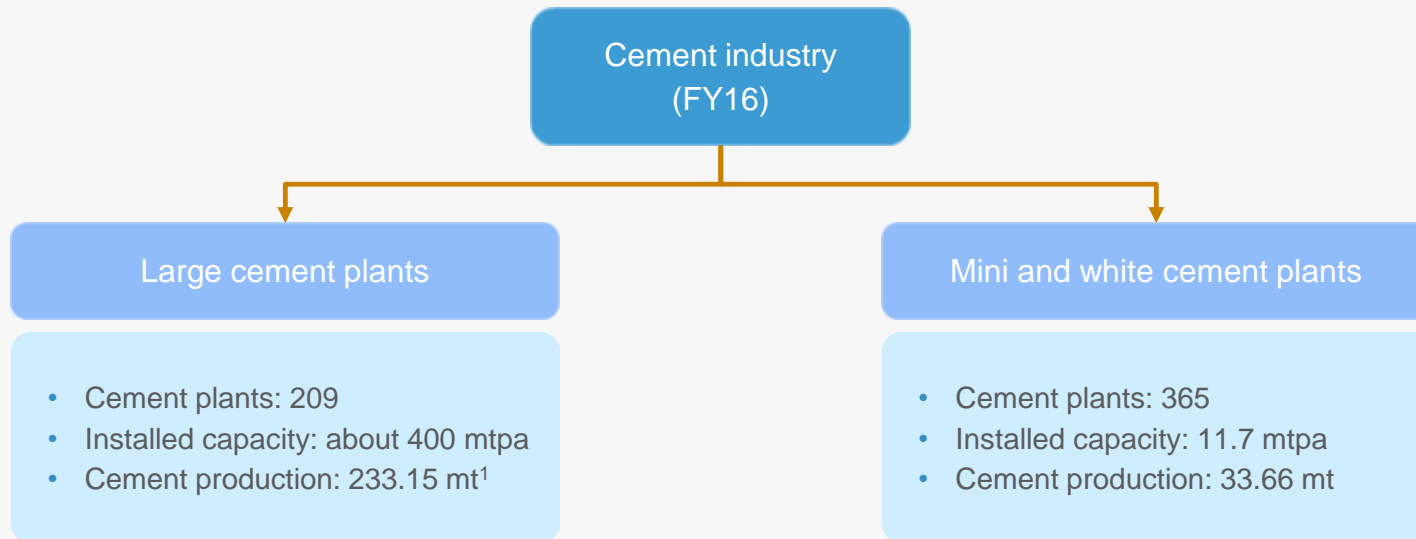
Source: Ministry of External Affairs (Investment and Technology Promotion Division), DIPP, TechSci Research
Notes: E – Estimated

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MARKET OVERVIEW

OVERVIEW OF THE INDIAN CEMENT INDUSTRY

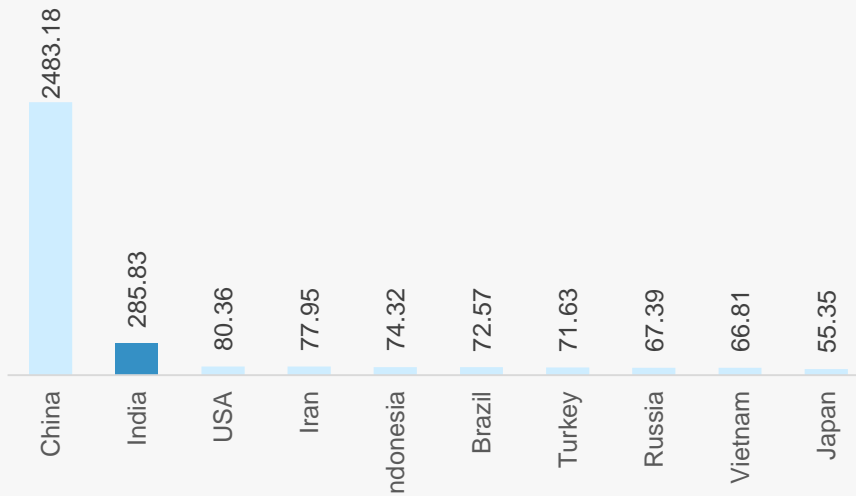


Source: Cement Manufacturers' Association (CMA), TechSci Research
Notes: mtpa - Million Tonnes Per Annum, mt – Million Tonnes
¹ Indicated (April 2016-Jan 2017)

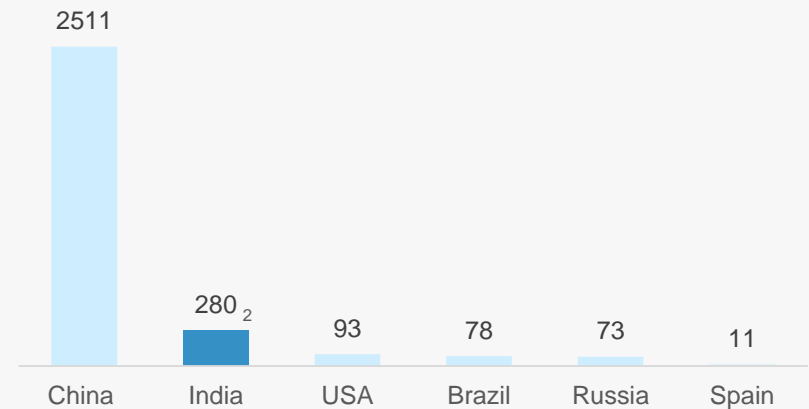
INDIA – WORLD'S 2ND LARGEST CEMENT PLAYER

- ✳ India is the 2nd largest cement producer as well as consumer in the world led by the enormous growth in the infrastructure & construction sector for the last 2 decades
- ✳ As of August 2015, cement production in India accounted for around 6.7 per cent of overall global cement output

Top cement producers in FY16¹,
(million tonnes)



Top cement consumers in FY16,
(million tonnes)

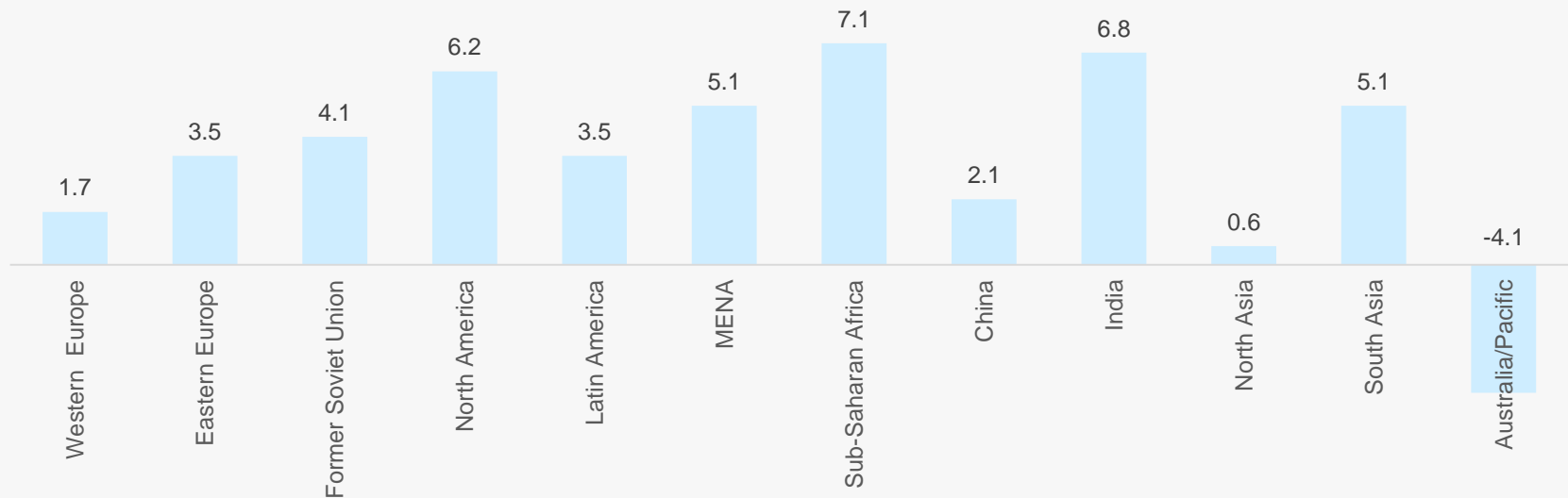


Source: International Cement Review,
USGS Mineral Resources Report, TechSci Research
Note: FY16¹ – As on August 2015, India² – As of June 2015,
USA – United States of America

INDIA'S PER CAPITA CONSUMPTION WILL SET TO RISE

- ✳ As India's current per capita consumption of cement (190 kg as of March 2015) is much lesser than the developed & other developing economies, there is a significant business opportunity to cater to the unmet & rising demand
- ✳ In order to meet the rising demand, cement companies are expected to pent up production by around 56 MT in the next 3 years, till 2019.

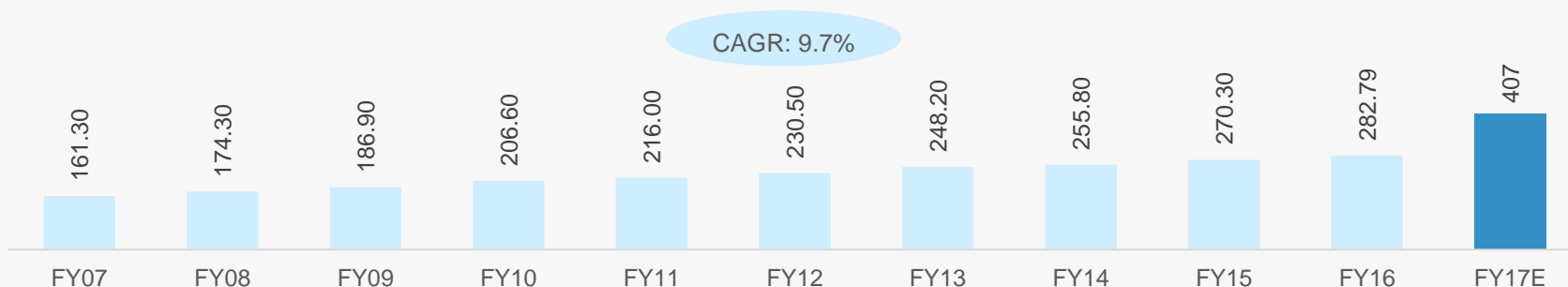
Cement Consumption Growth By Region YoY (%),
2015E



Source: International Cement Review, TechSci Research

CEMENT PRODUCTION IN INDIA HAS BEEN GROWING AT A FAST PACE

Production of cement (million tonnes)



Source: Department of Industrial Policy & Promotion, Office of the Economic Advisor, TechSci Research

Notes: E – Estimated

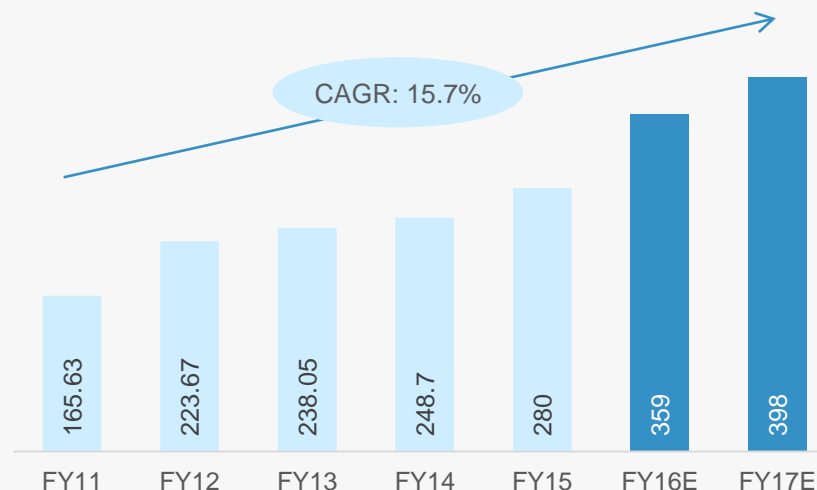
NHAI – National Highways Authority of India

- ✳ As per the 12th Five Year Plan, production is expected to reach 407 million tonnes by FY17
- ✳ Availability of fly-ash (from thermal power plants) & use of advance technology has increased production of blended cement
- ✳ The environment-friendly blended cement is more cost-efficient to produce, as it requires lesser input of clinker & energy
- ✳ In April-January 2017, cement production in the country increased by 1 per cent in comparison to 3.3 per cent in April-January 2016
- ✳ In India, average cement prices increased by 6.7 per cent month-on-month in April 2017, indicating impending volume growth & possibly better profitability for cement makers in the quarter May-July 2017.
- ✳ In June 2017, the Indian cement manufacturers assured the Ministry of Road Transport and Highways for their support for evolving a realistic approach and a transparent pricing of cement for road construction by NHAI.

DOMESTIC CEMENT CONSUMPTION IN INDIA ON AN UPTREND

- * Domestic cement consumption is to reach 280 million tonnes in FY15 from 165.63 million tonnes in FY11
- * The consumption is further expected to increase at a CAGR of 15.7 per cent during FY11-17 & reach 398 million tonnes
- * Demand will be supported by infrastructure development in tier 2 & tier 3 cities
- * The country's per capita consumption is around 190 kg as of 2015, compared to the world average of over 350 kg per capita, which shows great potential for growth
- * With the situation coming back to normal after demonetisation, construction activities were seen to be picking up in January 2017. On the back of this, demand for cement is expected to see gradual improvement in the coming months.

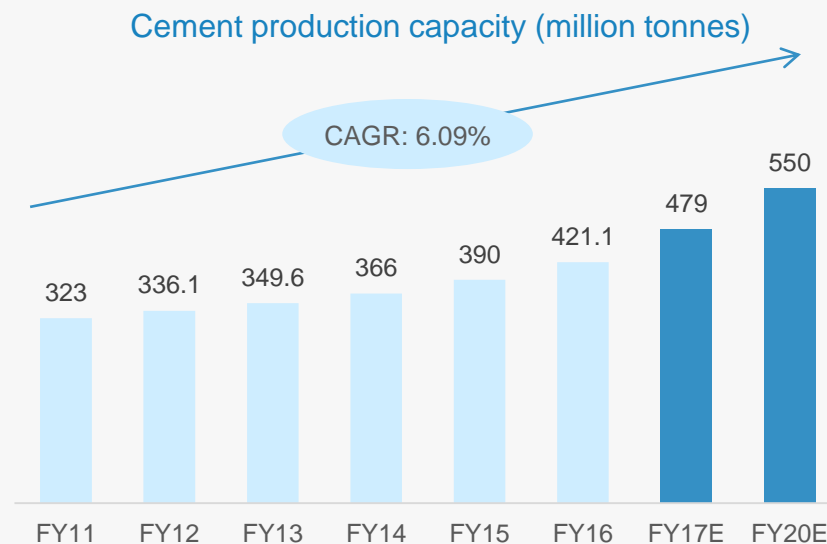
Domestic cement consumption (million tonnes)



Source: CMA, CMIE Database, TechSci Research
Notes: E – Estimate, CAGR - Compound Annual Growth Rate

CAPACITY TO EXPAND GOING FORWARD

- * Cement production capacity increased from 323 million tonnes in FY11 to 421.1 million tonnes in FY16
- * Production capacity is expected to increase at a CAGR of 6.09 per cent during FY11-20E & reach 550 million tonnes
- * Sagarmala Project, proposes development of 14 Coastal Economic Zones (CEZ) across the major & non-major ports of India. The project aims to enhance cement production by 40 MTPA by 2025 & make domestic manufacturing more competitive.

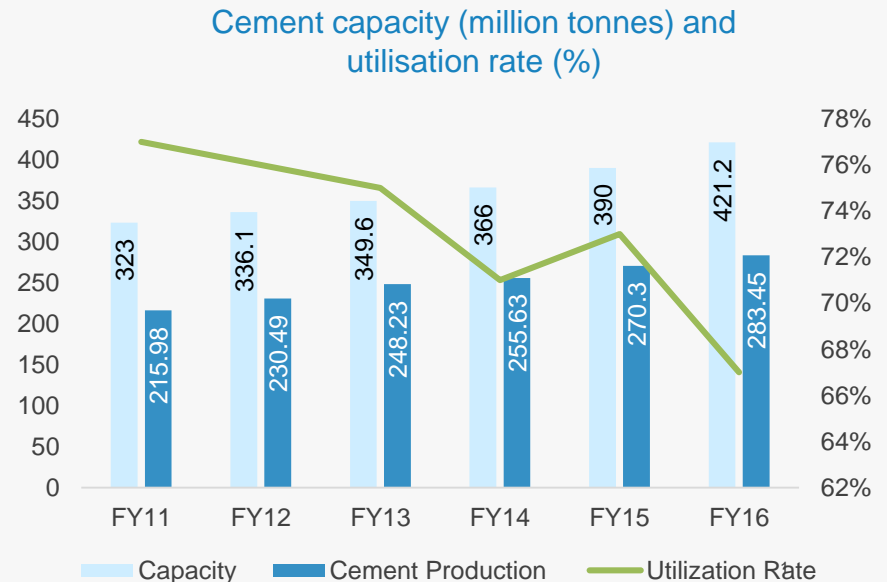


Source: The Economic Times, Business Standard, Ministry of External Affairs, TechSci Research

Notes: E - Estimate, CAGR - Compound Annual Growth Rate
MTPA – Million Tonnes Per Annum

CAPACITY UTILISATION RATE TO GROW DURING 12TH FIVE YEAR PLAN

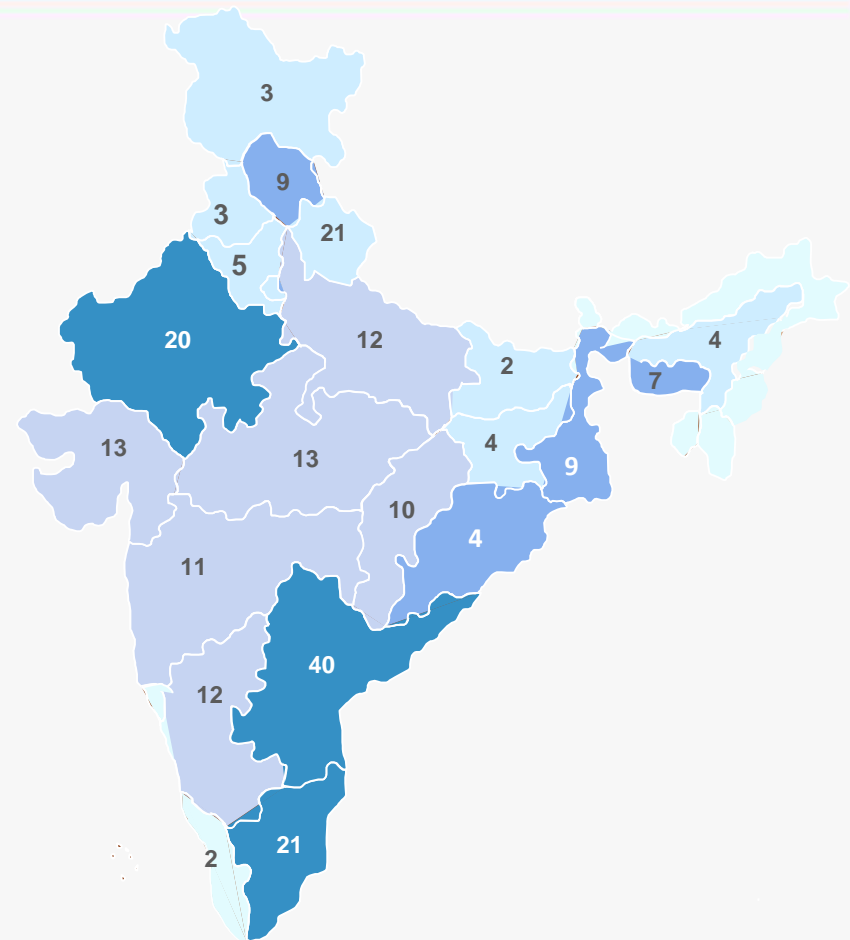
- * Cement utilisation rate is expected to touch around 67 per cent in FY16 from 77 per cent in FY11



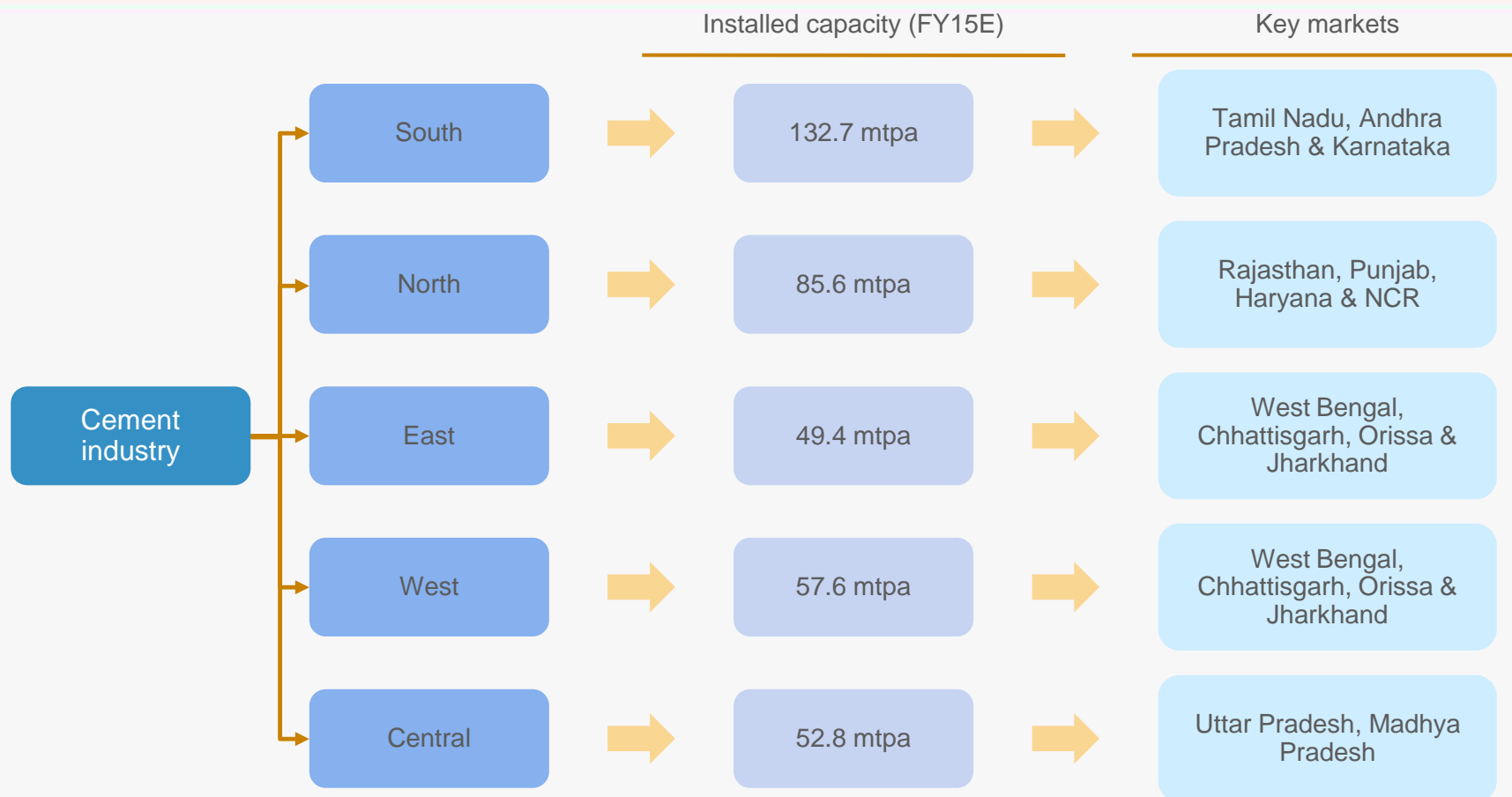
Source: ACC Limited Corporate Presentation, TechSci Research
Notes: E - Estimate, CAGR - Compound Annual Growth Rate

LARGE CEMENT PLANTS IN INDIA

- * As of 2016, India has 209 large cement plants across states and is among the top 10 exporters both by value & volume
- * Andhra Pradesh is the leading state with 40 large cement plants, followed by Tamil Nadu, Uttarakhand & Rajasthan having 21, 21 & 20 plants, respectively
- * Major cement clusters include - Satna (Madhya Pradesh), Gulbarga (Karnataka), Yerranguntla (Andhra Pradesh), Nalgonda (Andhra Pradesh) & Chandoria (Rajasthan)



THE INDUSTRY IS SPLIT INTO FIVE GEOGRAPHIC SEGMENTS



Source: Indian Minerals Year Book by Indian Bureau of Mines, TechSci Research
Notes: mtpa - Million Tonnes Per Annum, E- Estimates

NOTABLE TRENDS IN THE CEMENT INDUSTRY

Increasing presence of cement players

- Presence of small & mid-size cement players across regions is increasing, which helps to diminish market concentration of industry leaders
- A large number of foreign players have also entered the market owing to the profit margins, constant demand & right valuation .
- Cement companies will go for the global listings either through the FCCB route or the GDR route

Tie – up with overseas

- India has joined hands with Switzerland to reduce energy consumption & develop newer methods in the country for more efficient cement production, which would help India meet its rising demand for cement in the infrastructure sector

Housing for All

- Under Union Budget 2017-18, US\$ 3.42 billion has been allocated to achieve government's mission of 'Housing for All by 2022. The scheme will be extended to 600 districts
- In the Budget 2016, the GOI, allocated a total of USD8.22 billion for the development of roads & highways of India, bracing the cement industry of India.
- Housing sector is considered to drive the cement industries in India to a great extent, which held nearly 67 per cent of the total cement consumption in India.

Source: Union Budget 2016 – 17, Emkay Global Financial Services
Note: GOI – Government of India

CAPACITY EXPANSION PLANS BY KEY PLAYERS ... (1/2)



Source: TechSci Research

Note: mtpa – million tonnes per annum; MT – Million Tonnes

CAPACITY EXPANSION PLANS BY KEY PLAYERS ... (2/2)

Heidelberg Cement

- Heidelberg Cement, a Germany-based cement manufacturer has commissioned Phase-I of its Jhansi grinding unit
- The company has undertaken an investment worth USD259.4 million for expanding its capacity to 2.9 MT
- Heidelberg aims to ramp up the operational capacity to 6 MT at its Damoh plant in Madhya Pradesh, striving to add an additional 9 MT by 2017

UltraTech Cement

- After the acquisition, the installed capacity of the company has reached 67mtpa. The capacity is likely to reach 71 mtpa, after the completion of expansion.
- As on October 2016, merger of Ultra tech cement & Jaiprakash Associates cement plants, with a total capacity of 21.1 million tonnes per annum (MTPA), was approved by the shareholders.

Amrit Cement

- Amrit Cement India Ltd (ACIL) has announced the launch of Amrit Cement in the North-Eastern market
- The company plans to achieve a production level of 5 million tonnes per annum by FY16, through capacity expansion in North-Eastern Bihar and Nepal

Emami Cement

- Emami Cement, a renowned brand of Emami Group, announced expansion plans with an investment of about USD74.7 million in 2016.
- The company has declared to set up a cement grinding plant in West Bengal & is also planning to build 2 other units in Andhra Pradesh & Rajasthan.
- The company plans to increase its capacity from existing 2.4 MT to 15-20 MT by 2021, with an investment of USD 1.27 billion.

Source: TechSci Research

Note: mtpa – million tonnes per annum; MT – Million Tonnes

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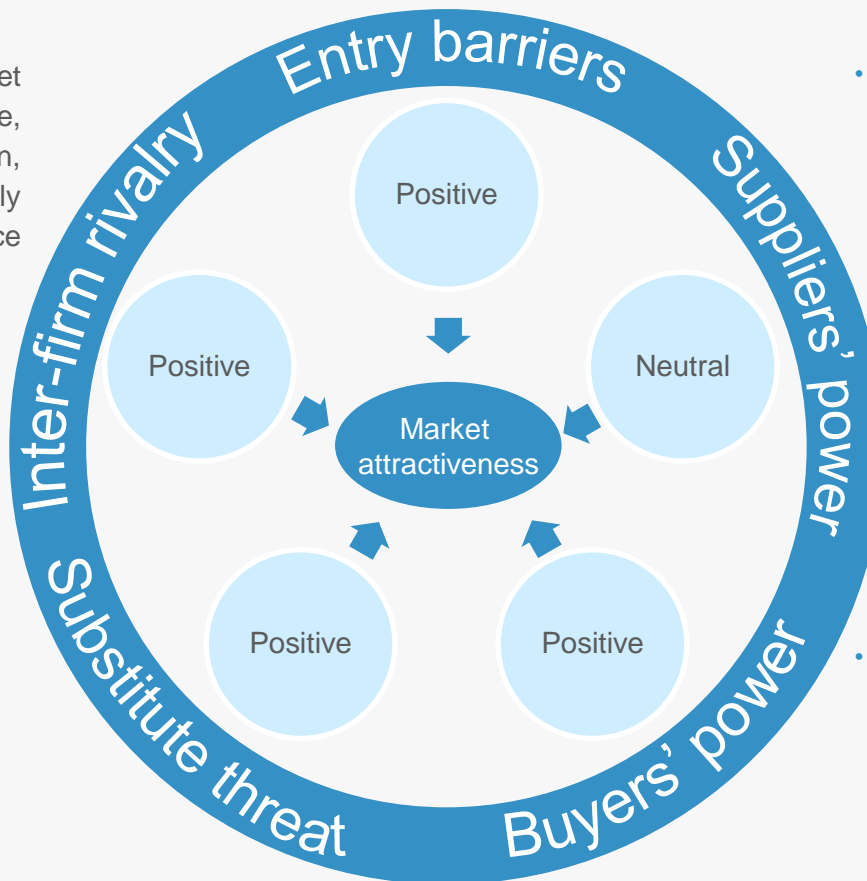


PORTERS FIVE FORCES ANALYSIS

CONDUCTIVE INDUSTRY FORCES SUPPORT LONG-TERM ATTRACTIVENESS

- High – Huge capital investments required present substantial barriers to entry & achieving economies of scale

- Low – The Indian cement market is oligopolistic in nature, characterised by tacit collusion, where large players partially control supply for better price discipline



- Moderate – Cement players have to depend on the railways for carriage outward & local coal companies for fuel, although diversification of freight options & fuel sources is diminishing the suppliers' power

- Low – Although there are partial substitutes such as asphalt, glass, steel, wood, etc; practically cement has no direct substitutes

- Low – Substantial market concentration among large players ensures low bargaining power of buyers

Source: TechSci Research

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STRATEGIES ADOPTED

STRATEGIES ADOPTED

Adoption of cement instead of Bitumen

- The Government of India has decided to adopt cement instead of bitumen for the construction of all new road projects on the grounds that cement is more durable & cheaper to maintain than bitumen in the long run

Increase in Clean Energy Cess

- The Schedule Rate of Clean Energy Cess, levied on coal is being increased from INR 100 per tonne to Rs. 300 per tonne
- The increase in the clean energy cess may lead to rise of power & fuel cost in the cement companies

Ready-mix concrete

- Companies are trying to develop a niche market for RMC (Ready Mix Concrete)
- Penetration of RMC has been low at about 8 per cent per cent (USA: 88 per cent; China: 33 per cent; Brazil: 32 per cent) because retail sales comprise mostly of bag cement

Mergers & Acquisitions

- In January 2017, JSW Cement bought 35.6 per cent stake in Shiva Cement, for an estimate amount of US\$ 14.42 million.

Mergers & Acquisitions

- By May 2017, around 15 companies expressed interest in NTPC's diversification initiative to attract cement manufacturers to establish their production plants near NTPC's power plants. Apart from helping utilise 52 million tonnes (mt) of fly ash generated by NTPC's projects, the company is also scouting for captive consumers to create demand for electricity generated by its plants.

Source: Ministry of External Affairs, HDFC Bank Annual Report

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GROWTH DRIVERS

STRONG DEMAND DRIVERS IN THE NEAR TERM

Housing growth

- The Housing segment accounts for a major portion of the total domestic demand for cement in India
- Real estate market is expected to grow at a CAGR of 11.6 per cent over 2011–20, with the market expected to reach USD180 billion by 2020
- Growing urbanisation, an increasing number of households and higher employment are primarily driving the demand for housing, accounting for 67 per cent of the total consumption
- Initiatives by the government are expected to provide an impetus to construction activity in rural & semi-urban areas through large infrastructure & housing development projects respectively

Infrastructure growth

- The government is strongly focused on infrastructure development to boost economic growth & is aiming for 100 smart cities
- It plans to increase investment in infrastructure to USD1 trillion in the 12th Five Year Plan (2012–17), compared with USD514 billion under the 11th Five Year Plan (2007–12)
- Infrastructure projects such as Dedicated Freight Corridors as well as new & upgraded airports & ports are expected to further drive construction activity,
- The government intends to expand the capacity of the railways & the facilities for handling & storage to ease the transportation of cement & reduce transportation costs

Commercial real estate growth

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Source: McKinsey Quarterly Report, TechSci Research, Ministry of External Affairs (Investment and Technology Promotion Division)

STRONG DEMAND DRIVERS IN THE NEAR TERM

Government Initiatives towards New Schemes

- Initiatives by the new government such as housing for all, smart cities, Swachh Bharat campaign, infrastructure spending, concrete roads initiative & an increase in allocation of funds to states are likely to see a positive impact on the industry in the next 3-6 months.
- The government's recent focus on road projects & an increase in state allocations will drive infrastructure & housing demand which will indeed drive the market for cement industry
- Projects like smart cities & Atal Mission for Rejuvenation & Urban Transformation (AMRUT) is expected to lead a surge in the demand for cement.

Development in Metro, Roads, Airports

- The metro rail projects in Mumbai, Bangalore, Hyderabad & the expansion phase in Delhi drives cement demand
- Airports modernisation across major cities will also expand demand for cement industry
- The latest development in the Ahmedabad Metro Rail Project has also driven the cement demand to a large extent.
- Construction sector is in the full boom in India due to increasing infrastructure-based developments coupled with continuous efforts being taken by the government. The government has allocated US\$9.65 billion for the road sector in the budget of 2017-18

Urbanisation and industrialisation development in the country

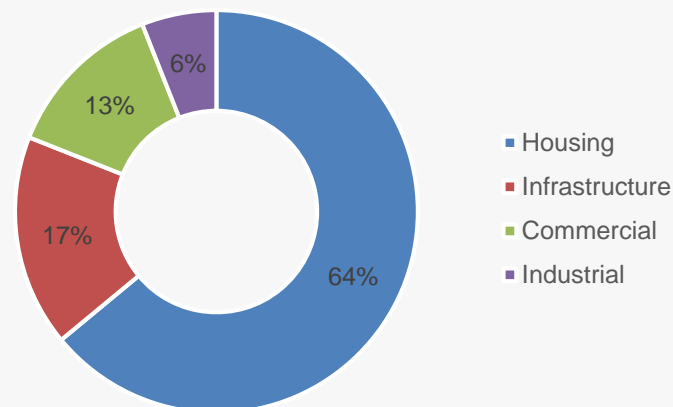
- The new urban development mission will focus on development of 500 cities having population of more than 100,000 & some cities of religious & tourist importance.
- Infrastructure is a priority for the government's economic policy; funding from private as well as public sectors is set to increase sharply in the near term which would anticipate the demand of cement industry in India.

Source: McKinsey Quarterly Report, TechSci Research, Ministry of External Affairs (Investment and Technology Promotion Division)

HOUSING SECTOR LEAD IN CEMENT DEMAND

- * Demand for cement is highly correlated with cyclical activities like construction & development
- * Housing sector accounts for a significant 64 per cent of the total cement demand followed by infrastructure, commercial and industrial with 17, 13 & 6 per cent in 2016.
- * Real estate market is expected to grow at a CAGR of 17.2 per cent during 2011–15 to USD126 billion. It is anticipated to reach USD180 billion by 2020.
- * The rapidly increasing real estate industry in India is expected to push the demand for cement
 - * Residential real estate demand is driven by rising population & growing urbanisation
 - * Rising income levels are leading to higher demand for luxury projects
 - * Demand for affordable housing is growing in order to meet the demand from lower income groups
- * Commercial real estate demand will be driven by growth in IT/ITeS sector & organised retail

Major cement demand drivers (FY16)



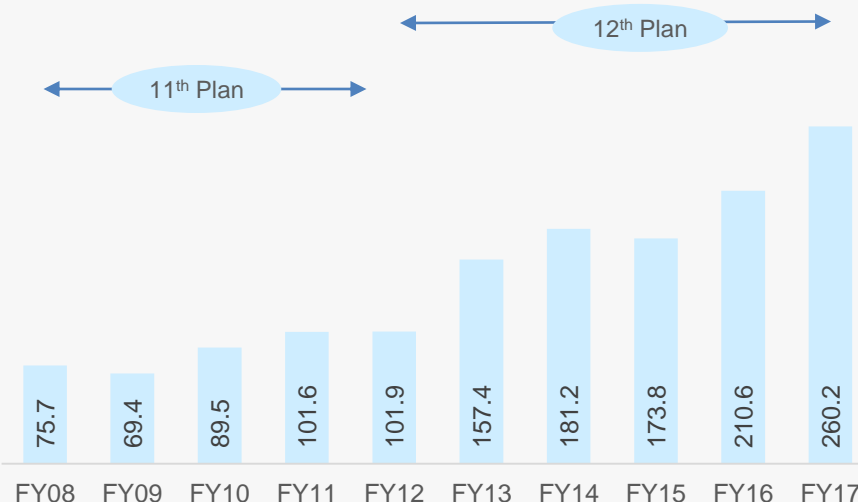
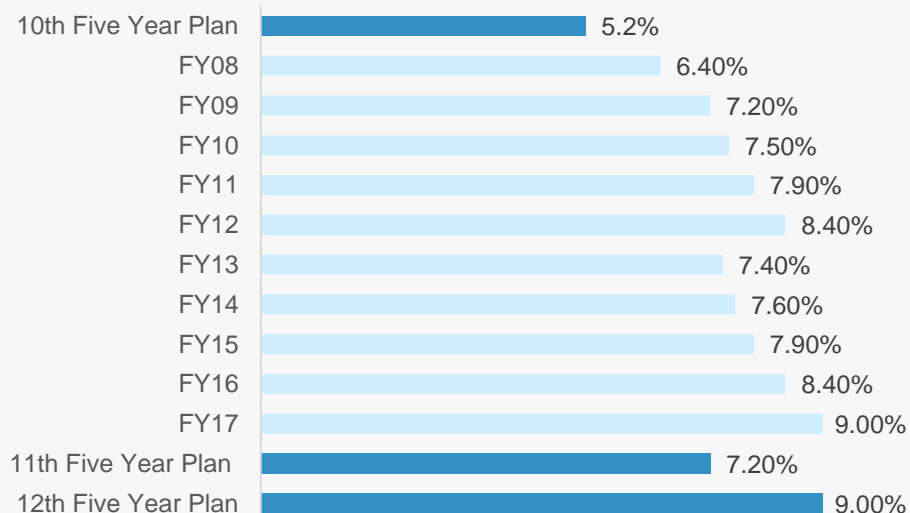
Source: Industry interaction/media reports:

INVESTMENT IN INFRASTRUCTURE DRIVING SECTOR'S GROWTH

- * Investment in infrastructure is the main growth driver for the cement industry
- * The NITI Aayog estimates total infrastructure spending to be about 9 per cent of GDP during the 12th Five Year Plan (2012-17), up from 7.2 per cent during the previous plan (2007-12)
- * India's investment in infrastructure is estimated to double to about USD1 trillion during the 12th Five Year Plan (2012-17) compared to the previous plan

Infrastructure spending as % of GDP

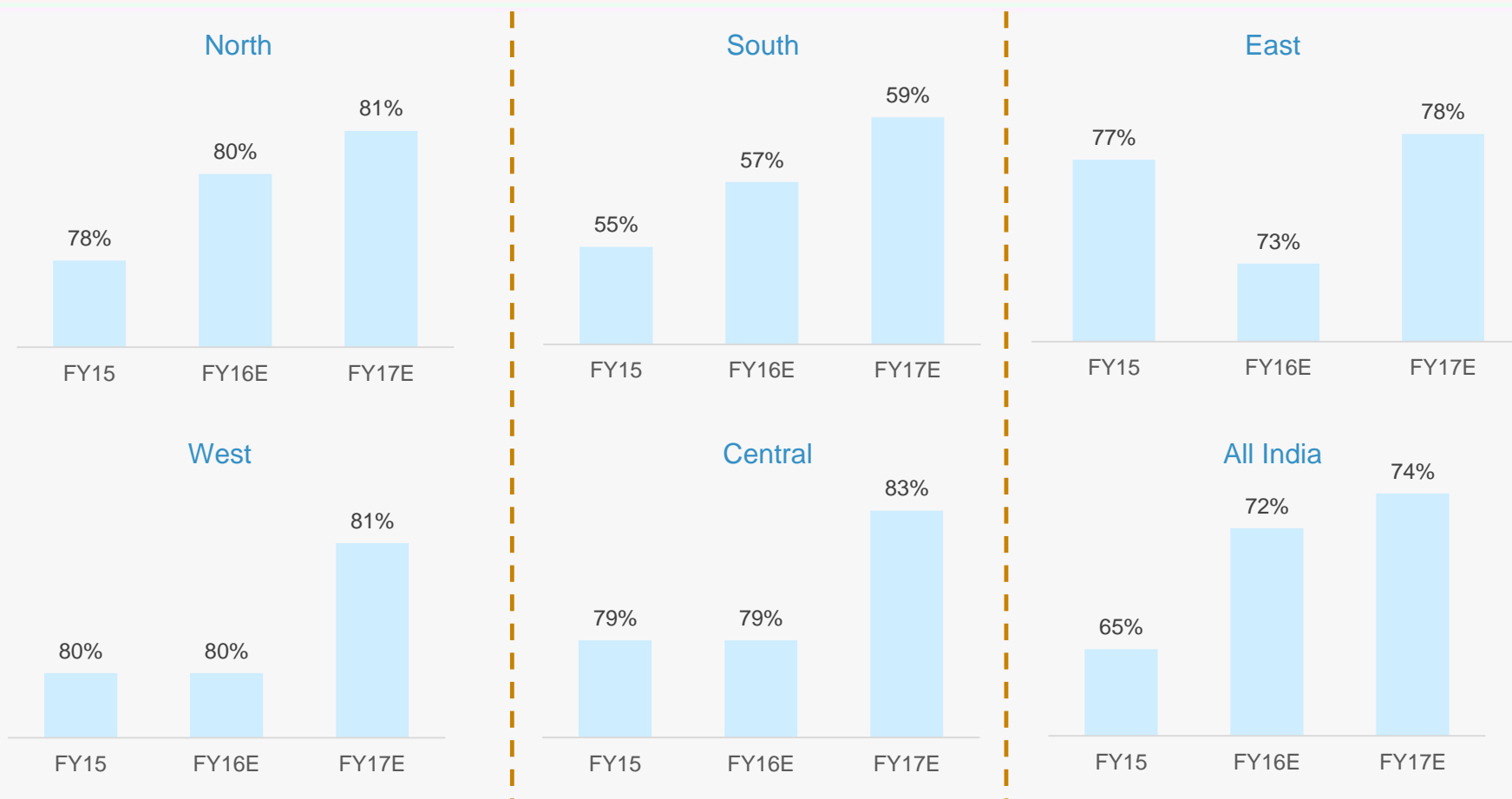
Infrastructure spending in % during
11th and 12th Five Year Plan



Source: CMIE Database, TechSci Research

Note: Additional capacity creation estimates are based on increase in base lines, roads, housing and fiscal support

UTILISATION RATES ESTIMATED TO IMPROVE

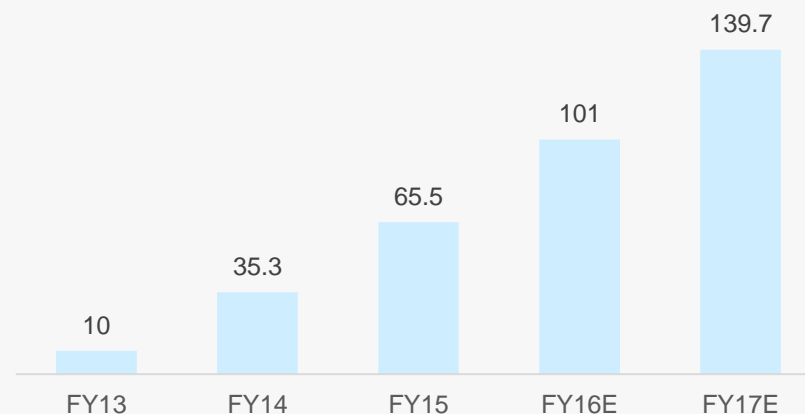


Source: CMA (Cement Manufacturers Association), Centrum Report, TechSci Research
Note: F- Forecast,

... CAPACITY ADDITIONS ALSO ON THE CARDS

- * Total cement production capacity in India stood at 421 million in FY17
- * The strong momentum in capacity addition is not surprising given the sharp growth in construction, infrastructure & real estate in Indian economy
- * Hence, the 12th Five Year Plan is estimated to have an additional capacity requirement of 139.7 million tonnes by FY17
- * The total FDI in cement & gypsum industry reached USD5.23 billion, between April 2000-March 2017
- * Adani Cementation Ltd signed an MoU with Gujarat government to set up a clinkering unit with an investment of US\$ 840.20 million.
- * Companies like Ultratech Cement, Shree Cement & Vadraj Cement Ltd signed MoUs with the Gujarat government for setting up cement manufacturing plants in the state with investment of US\$ 381.9 million each.
- * In April 2017, Burnpur Cement plans to launch a new product - PPC (Pozolona Portland Cement) from its plant at Patratu. Post launch, the company plans on increasing capacity utilisation rate of the plant to 100 per cent.
- * In May 2017, India Cements Ltd. announced that its capacity utilization had increased to 70 per cent in 2016-17 compared to 63 per cent in the previous year due to higher exports and focus on specialty cements.

Capacity creation as per the 12th Five Year Plan
(million tonnes)



Source: DIPP (Department of Industrial Policy and Promotion)
Notes: Additional capacity creation estimates are based on increase in base lines, roads, housing and fiscal support,
E – Estimates

CASES OF SUCCESSFUL USE OF ALTERNATE FUELS IN CEMENT PRODUCTION

Company/Plant		Strategy		Benefits
Madras Cement's Alathiyur plant	→	Use bioenergy through burning of coffee husk & cashew nut shells	→	Annual cost savings of USD1.7 million
India Cements Ltd's Dalavoi plant	→	Use Low Sulphur Heavy Stock (LSHS) sludge as alternate fuel	→	Annual savings of USD6,500 approx
UltraTech's Gujarat Cement Works	→	Use tyre chips & rubber dust as alternate fuel	→	Reduction of about 30,000 tonnes of carbon emissions annually
Lafarge's Arasmata plant	→	Substitute 10 per cent of coal used in kilns with rice husk	→	Higher energy savings and lower carbon emissions

Source: CMA, TechSci Research

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OPPORTUNITIES

NORTH-EAST INDIA: A LAND OF OPPORTUNITIES FOR CEMENT FIRMS

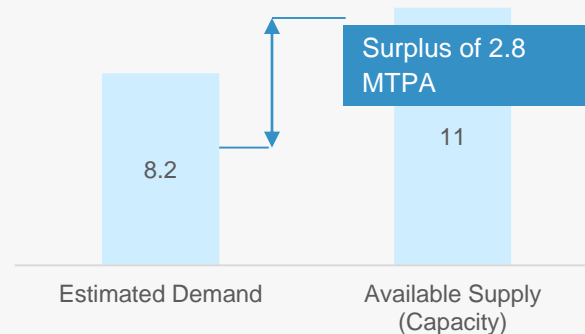
NE India: Cement demand

- The North Eastern (NE) region has consistently been in cement deficit for several years

NE India: Cement supply

- Cement manufactured locally is inadequate to meet the local demand for cement
- The deficit is met through cement purchased from other parts of India
- High transportation costs cause the landed costs of cement to increase considerably

NE India: Cement demand-supply (2016-17E)

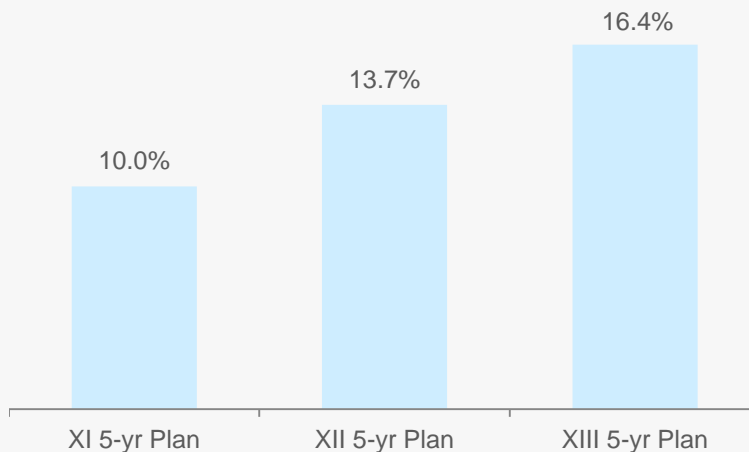


Source: Industry Sources, TechSci Research
Note: mtpa - Million Tonnes Per Annum

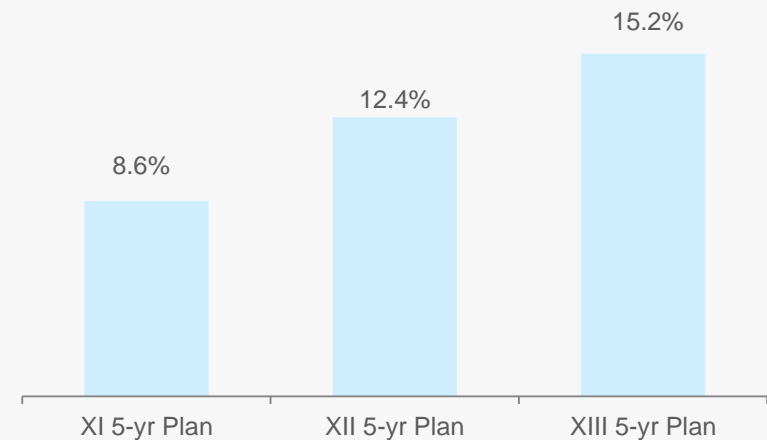
NORTH-EAST INDIA: DEMAND DRIVERS FOR CEMENT

- * The Government has approved a package of fiscal incentives & other concessions for the North Eastern Region, namely the North East Industrial & Investment Policy, 2007, effective from 1 April, 2007
- * The major policy & fiscal initiatives are expected to catalyse infrastructure & industrial development in the region, spurring the demand for cement
- * Dungsam Cement, a Bhutan-based player, is entering the Indian market, targeting mainly North-East market

NE states projected GDP growth at constant prices



NE states projected per capita income growth



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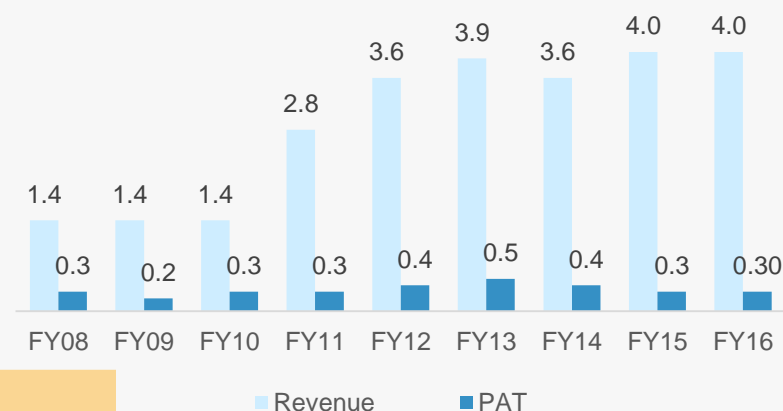


SUCCESS STORIES

ULTRATECH CEMENT: A COMPELLING GROWTH STORY

- * UltraTech is India's largest exporter of cement clinker spanning export markets in countries across the Indian Ocean, Africa, Europe & Middle East
- * UltraTech & its subsidiaries have a presence in 5 countries through 12 integrated plants, 1 white cement plant, 1 clinkerisation plant, 17 grinding units, 2 rail & 3 coastal terminals & 101 RMC plants
- * It has an annual capacity of 64 MT
- * Projects: Mumbai Metro, Bangalore Metro Rail, Kolkata Metro Rail, Monorail, Coastal Gujarat Power
- * For the quarter ending on September 2016, the company reported consolidated net profit of USD 93.74 million.

Revenue and Profit After Tax (PAT) in USD billion



Source: Company website, TechSci Research
Notes: RMC – Ready Mix Concrete
PAT – Profit after tax

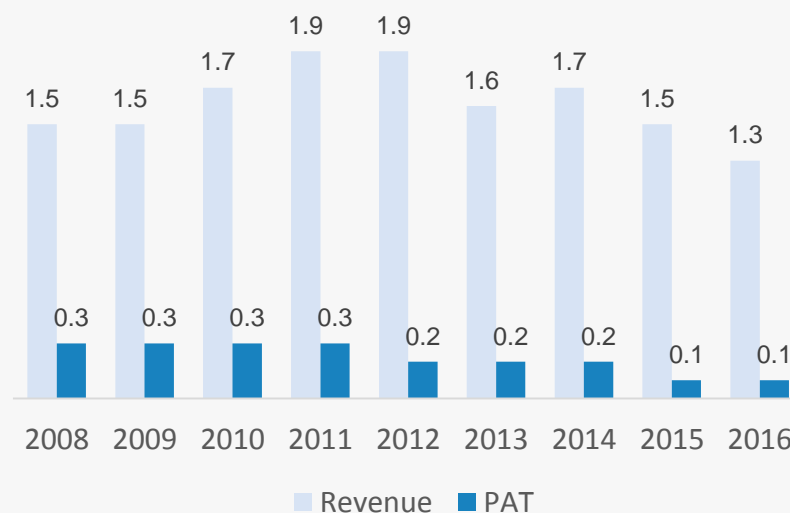
Milestones

- 2004 – Acquisition of L&T's Cement Business: UltraTech Cement Ltd
- 2006 – Narmada Cement Company Limited amalgamated with UltraTech
- 2010 – Samruddhi Cement Limited amalgamated with UltraTech Cement Limited
- 2012 – Acquisition of Adhunik Cement's Meghalaya plant
- 2013 – Buys Jaypee Cement's Gujarat unit
- 2015 – Commissioned 6000 TPD Clinkerisation line at Aditya Cement, (Rajasthan)
- 2016 – Greenfield & Brownfield expansion. Capacity: 67.7 mtpa (including 3 mtpa overseas)

AMBUJA CEMENT: ON A HIGH GROWTH PATH

- * Ambuja Cements Ltd (ACL) is one of the leading cement manufacturing companies in India.
- * The company, initially called Gujarat Ambuja Cements Ltd, was founded by Narotam Sekhsaria in 1983
- * Ambuja Cements is the 2nd largest cement manufacturer in India, with nearly 10 per cent of the market share of total installed capacity
- * It is the market leader in Northern India with 29 per cent of the total installed capacity

Revenue and Profit After Tax (PAT) in USD billion



Milestones

- 2010 – Started cement plant at Nalagarh, Himachal Pradesh & Dadri, Uttar Pradesh with a capacity of 1.5 million tonnes
- 2011 – Acquired 85 per cent stake in Nepal-based Dang Cement
- 2012 – Expansion of Sankrail Grinding Unit, thereby increasing the capacity from 1.5 mtpa to 2.4 mtpa
- 2013 – Acquiring Holderind Investments Ltd, Mauritius (Holcim), These transactions will result in Ambuja holding 50.01 per cent stake in ACC
- 2015 – Ambuja Cement becomes the leading water positive cement company in India with 4.03 times water positive factor

Source: Company website, TechSci Research
Notes: mtpa – Million Tonnes Per Annum
PAT – Profit after tax

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USEFUL INFORMATION

INDUSTRY ASSOCIATIONS

Cement Manufacturers' Association

CMA Tower, A-2E, Sector 24 NOIDA – 201 301

Uttar Pradesh, India

Phone: 91-120-2411955, 2411957, 2411958

Fax: 91-120-2411956

E-mail: cmand@vsnl.com

Website: www.cmaindia.org/index.html

BODIES PROMOTING INDUSTRY DEVELOPMENT

Indian Concrete Institute

Ocean Crest 79, Third Main Road, Gandhi Nagar, Adyar, Chennai – 600 020

Phone: 91-44-24912602

Fax: 91-44-24455148

E-mail: ici3@vsnl.in, ici4@airtelmail.in, vj6314@gmail.com

Website: www.indianconcreteinstitute.org

National Council for Cement and Building Materials

34th Milestone, Delhi-Mathura Road, Ballabgarh – 121 004 Haryana, India

Phone: 91-129-2242051/52/53/54/55/56; 4192222

Fax: 91-129-2242100; 2246175

E-mail: nccbm@vsnl.com; info@ncbindia.com

GLOSSARY

- * **CMA:** Cement Manufacturers' Association
- * **GDP:** Gross Domestic Product
- * **Gol:** Government of India
- * **INR:** Indian Rupee
- * **MTPA:** Million Tonnes Per Annum
- * **NE India:** North-East India
- * **FY:** Indian Financial Year (April to March)
 - * So FY10 implies April 2009 to March 2010
- * **USD:** US Dollar
- * Wherever applicable, numbers have been rounded off to the nearest whole number

EXCHANGE RATES

Exchange rates (Fiscal Year)

Year	INR equivalent of one USD
2004–05	44.81
2005–06	44.14
2006–07	45.14
2007–08	40.27
2008–09	46.14
2009–10	47.42
2010–11	45.62
2011–12	46.88
2012–13	54.31
2013–14	60.28
2014-15	61.06
2015-16	65.46
2016-17 (E)	66.95

Exchange rates (Calendar Year)

Year	INR equivalent of one USD
2005	43.98
2006	45.18
2007	41.34
2008	43.62
2009	48.42
2010	45.72
2011	46.85
2012	53.46
2013	58.44
2014	61.03
2015	64.15
2016 (Expected)	67.22

Source: Reserve bank of India,
Average for the year

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