INDIA
FASTEST GROWING
FREE MARKET DEMOCRACY

CEMENT

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CEMENT

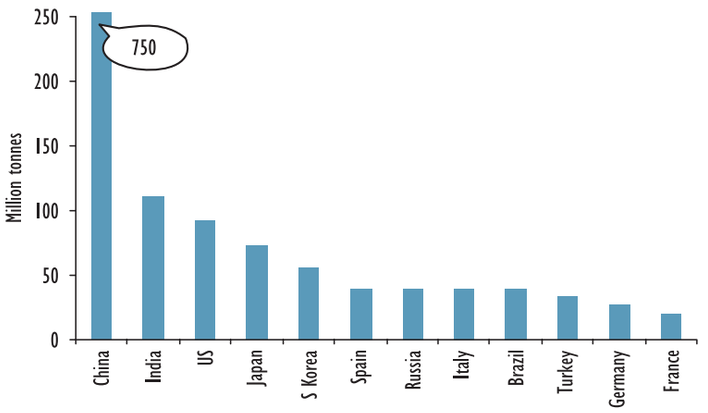
A report by Crisil for IBEF

The Indian cement industry with a total capacity of 151.2 million tonnes (including mini plants) in March 2003 has emerged as the second largest market after China, surpassing developed nations like the USA and Japan. Per capita consumption has increased from 28 kg in 1980-81 to 110 kg in 2003-04. In relative terms, India's average consumption is still low and the process of catching up with international averages will drive future growth.

Infrastructure spending (particularly on roads, ports and airports), a spurt in housing construction and expansion in corporate production facilities is likely to spur growth in this area. South-East Asia and the Middle East are potential export markets. Low cost technology and extensive restructuring have made some of the Indian cement companies the most efficient across global majors. Despite some consolidation, the industry remains somewhat fragmented and merger and acquisition possibilities are strong. Investment norms including guidelines for foreign direct investment (FDI) are investor-friendly. All these factors present a strong case for investing in the Indian market.

WHY INDIA

World cement production (2003)



Source: United States' Geological Survey.

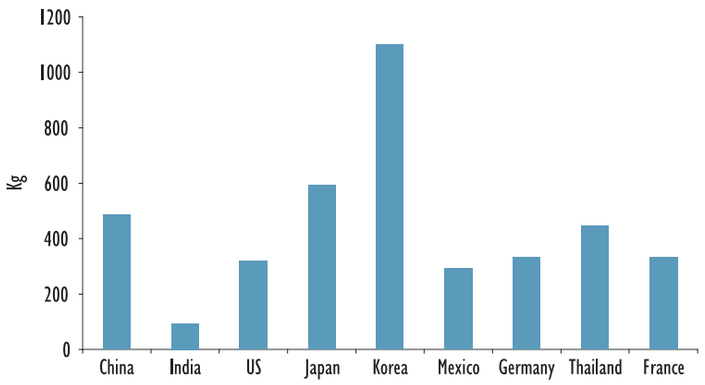
A global heavyweight

India is the second largest cement producing country in the world. Cement demand in the country grows at roughly 1.5 times the GDP growth rate. The industry had a turnover of around US$ 7.8 billion in 2003-04 and according to CRISIL is expected to grow at a CAGR of around 7 per cent in the next five years.

The demand for cement is closely related to the growth in the construction sector. Consequently, cement demand has been posting a healthy growth rate of around 8 per cent since 1997-98, propelled by the increased thrust on infrastructure development, and the higher demand from the housing sector and industrial projects. This trend is likely to continue in the coming years.

Low per capita consumption - a long term opportunity

Per capita consumption of cement (2003)



Source: United States' Geological Survey and CRISIL.

Another factor that makes Indian cement an attractive investment destination is the combination of a lower per capita consumption and a faster growth rate. The Indian cement industry has registered a production of more than 100 million tonnes since 2001-02. The per capita consumption of 102 kg as compared to the world average of 260 kg, 450 kg in China and 631 kg in Japan underlines the tremendous scope for growth in the Indian cement industry in the long term.

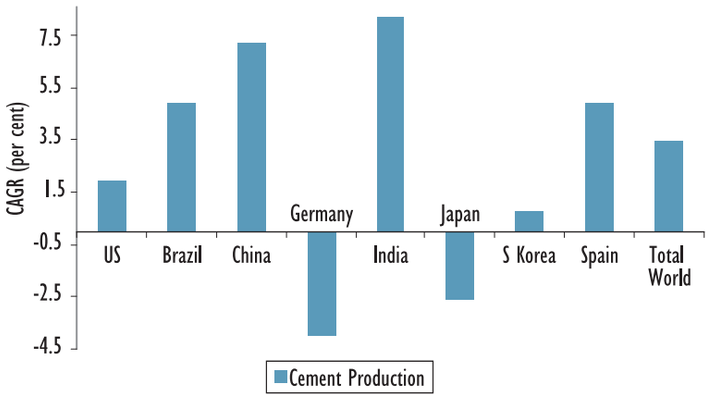
Prices and profits to be firm

Major players in the industry are not planning any significant capacity addition for the next two years. Considering the gestation period of setting up a cement plant, additional supply from new capacities, if any, will arrive only from 2005-06 onwards. Limited capacity additions and high demand will narrow the demand-supply gap, improve price realisations and lead to higher profitability.

Any further reduction in import duties on cement and clinkers is unlikely to affect the industry as the cement produced is at par with the international standards and the prices are lower than those prevailing in other international markets.

INDIA: COMPETITIVENESS AND COMPARISON WITH WORLD MARKETS

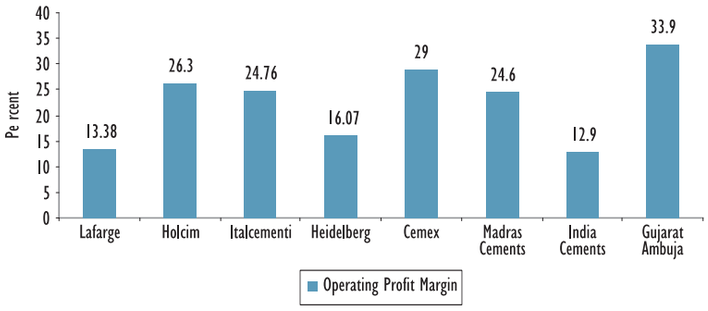
Growth in world cement production (CAGR: 1994-2003)



Source: United States' Geological Survey.

Global cement production was 1,860 million tonnes in 2003, with China accounting for nearly 37 per cent of the total output followed by India accounting for a 6 per cent share. The US accounts for a 5 per cent share in world cement production. India is not only a large producer, but also the fastest growing market in the world. Cement production in the country during 1994-2003 grew at a CAGR of 8.2 per cent as compared to 7.2 per cent in China and the world average of 3.5 per cent.

Profitability of major cement companies



Source: Annual Reports

Note: OPM are for 2003-04.

The cost advantage

The Indian cement industry has undergone vital changes though technological upgradation in the pursuit of cost efficiency and the drive for consolidation. Modernisation at the plants and the improvement of plant processes have helped reduce manpower requirements. The Indian business group, Grasim, is amongst the top ten companies in the world. Indian major, Gujarat Ambuja is one of the most cost efficient firms in the world. Most Indian cement majors in fact compare favourably to the world cement majors in terms of profitability.

Gujarat Ambuja - the cost leader

Gujarat Ambuja Cement Ltd (GACL) is widely considered to be the producer with the lowest costs in the Indian cement industry. It has won various awards for management excellence, quality, and environmental management.
GACL's quest for cost leadership had been driven by various productivity improvements and cost cutting measures.
The company's modern plants, large kilns, high degree of automation, low power and fuel costs has helped it to control costs in a way which was unmatched in industry. GACL had cut energy costs by reducing the usage of coal through use of substitutes like crushed sugarcane. GACL operated most of its plants at above 100 per cent capacity utilisation. The company's engineers have absorbed the best practices in mining and manufacturing during visits to overseas plants in countries like Japan and Australia. The company pioneered the use of ship transportation to cut freight costs and also established the necessary infrastructure like ports, freight and handling terminals. Low-cost funds helped GACL to cut the cost of capital.

The export potential

India has an immense potential to tap cement markets of countries in the Middle East and South East Asia due to its strengths of locational advantage, large-scale limestone and coal deposits, adequate cement capacity and world-class cement production with the latest technology. India has an estimated total of 90 billion tonnes of limestone deposit in the country.

POLICY

Opening up the FDI channel

The impact of government policies on cement demand has been steadily decreasing with the sector being gradually deregulated. At present, 100 per cent foreign direct investment (FDI) is permitted in the cement industry. Lafarge was the first foreign company to enter the Indian market in 1999.

The French Connection: Lafarge in India

Lafarge, the French company, became the first multinational to enter India's cement industry. The group entered India by launching its brand in the eastern part of the country on November 1, 1999 through its acquisition of TISCO's 2 million tonnes cement operation. Three financial institutions, ICICI, HDFC and State Bank of India, together extended a loan of US$ 50 million to Lafarge India to fund its TISCO acquisition. This was followed by its second major acquisition of Raymond's Cement Division in eastern India at a price of US$ 180 million. The Cement Division of Raymond had a plant with 2.24 million tonnes capacity located at Bilaspur in Madhya Pradesh. This helped Lafarge emerge as an important player in the East Indian markets.

Lafarge currently has a total cement capacity of 5 million tonnes. Its current cement operation comprises a modern split location cement facility located at Sonadih (District Raipur, Chhattisgarh) and at Jojobera (District Singhbhum, Jharkhand) and an integrated cement facility located at Arasmeta (District Janjgir-Champa, Chhattisgarh). It has an extensive dealer network in the eastern states of West Bengal, Jharkhand, Bihar, North-Eastern States and Chhattisgarh. Its products are available in parts of Orissa, Madhya Pradesh and Vidarbha (Maharashtra). It uses India as a base to export high quality clinker and cement

to Bangladesh and Nepal. As a result of the conducive Indian policies, Lafarge has been able to spread its operations across India and increase its market hold from 0.9 per cent share in 1999-00 to 3.2 per cent in 2003-04.

Easing environment norms

To set up a cement plant in India, with an investment of over US$ 22 million entrepreneurs are required to obtain environmental clearance from the Ministry of Environment. 100 per cent FDI is also allowed for private cement companies to set up power projects as well as coal or lignite mines for captive consumption.

State policies and export norms to encourage investment

Both the state and export policies promote cement production. Exporters can claim duty drawbacks on imports of coal and furnace oil up to 20 per cent of the total value of imports. Most state governments offer fiscal incentives in the form of sales tax exemptions/deferrals in order to attract investment. In some states, this applies only to intra-state sales, like Madhya Pradesh and Rajasthan. States like Haryana offer a freeze on the power tariff for 5 years, while Gujarat offers exemption from duty on electricity.

Urban Land Ceiling Act repeal could be a driver

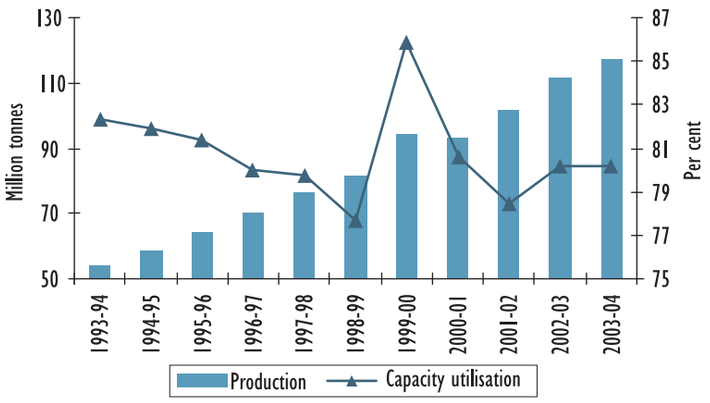
The Urban Land Ceiling Regulation Act (ULCRA) enacted to control and prevent the concentration of urban land, has been repealed in many states. This could facilitate the development of such land for housing and other construction.

Targets set in the Union Budget 2004-05 such as an impetus on rural housing, raising the rural housing target to 250,000 houses and accelerating the completion of irrigation projects will also drive cement demand.

TRENDS AND PLAYERS

Production, capacity and varieties

Cement production and capacity utilisation



Source: CMA

Cement production in India has increased at a CAGR of 8.1 per cent during the last decade with a production level of 117.5 million tonnes in 2003-04. The cement industry comprises 125 large cement plants (capacity more than 0.198 million tonnes per annum) with an installed capacity of 148.28 million tonnes and more than 300 mini cement plants (capacity less than 0.198 million tonnes per annum) with an estimated capacity of 11.10 million tonnes per annum. The industry worked at an estimated 80.2 per cent capacity in 2003-04. Small plants, however, work at an installed capacity of around 40 per cent.

Among the different varieties of cement, India produces Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFS), Oil Well Cement, Rapid Hardening Portland Cement and Sulphate Resisting Portland Cement. The share of blended cement in total cement production has increased from 29 per cent in 1997-98 to 54.5 per cent in 2003-04.

Cement - Varieties and Technology

There are different varieties of cement based on different compositions according to specific end uses, namely, Ordinary Portland Cement, Portland Pozzolana Cement, White Cement, Portland Blast Furnace Slag Cement and Specialised Cement. The basic difference lies in the percentage of clinker used.

- **Ordinary Portland Cement (OPC):**

  OPC, popularly known as grey cement, has 95 per cent clinker and 5 per cent gypsum and other materials. It accounts for 70 per cent of the total consumption.

- **Portland Pozzolana Cement (PPC):**

  PPC has 80 per cent clinker, 15 per cent pozolona and 5 per cent gypsum and accounts for 18 per cent of the total cement consumption. It is manufactured because it uses fly ash/burnt clay/coal waste as the main ingredient.

- **White Cement:**

  White cement is basically OPC - clinker using fuel oil (instead of coal) with an iron oxide content below 0.4 per cent to ensure whiteness. A special cooling technique is used in its production. It is used to enhance aesthetic value in tiles and flooring. White cement is much more expensive than grey cement.

- **Portland Blast Furnace Slag Cement (PBFSC):**

  PBFSC consists of 45 per cent clinker, 50 per cent blast furnace slag and 5 per cent gypsum and accounts for 10 per cent of the total cement consumed. It has a heat of hydration even lower than PPC and is generally used in the construction of dams and similar massive constructions.

- **Specialised Cement:**

  Oil Well Cement is made from clinker with special additives to prevent any porosity.

- **Rapid Hardening Portland Cement:**
  Rapid Hardening Portland Cement is similar to OPC, except that it is ground much finer, so that on casting, the compressible strength increases rapidly.
- **Water Proof Cement:**
  Water Proof Cement is similar to OPC, with a small portion of calcium stearate or non- saponifibale oil to impart waterproofing properties.

The major expansion plans announced by Indian cement companies include Dalmia Cement's capacity expansion plan of 2 million tonnes; Ambuja Cement Eastern's 50 per cent expansion plan; ACC's plans of increasing its capacity at Jharkhand to 1.5 million tonnes and an increase in IDCOL's capacity by 35 per cent.

Consolidation to continue

The cement industry in India is still highly fragmented with over 50 players. The presence of excess capacity in the industry has triggered large-scale consolidation, a trend expected to continue during the next 3-4 years.

Market Share of top four groups in each region of India

(Per cent)	2003-04	2007-08 P
North	49.8	68.2
South	50.8	66.2
West	61.4	80.5
East	58.4	76.6

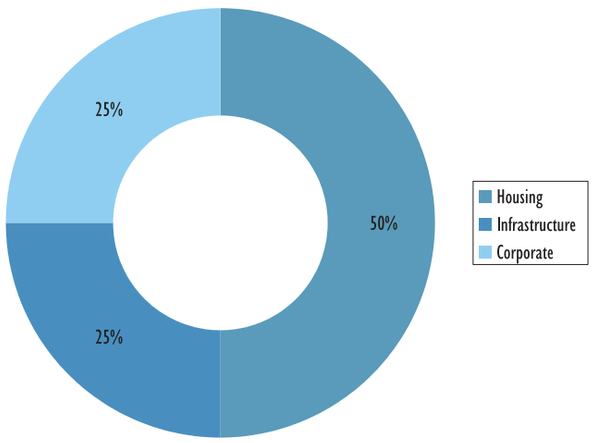
P: Provisional

Source: CRISIL.

A shift in use pattern

The end-users of the cement industry include housing, infrastructure and corporate segments. While government demand (for infrastructure) accounts for around 25 per cent of the total demand, the share of the housing sector accounts to more than 50 per cent of the total cement.

Cement users (2003-04)

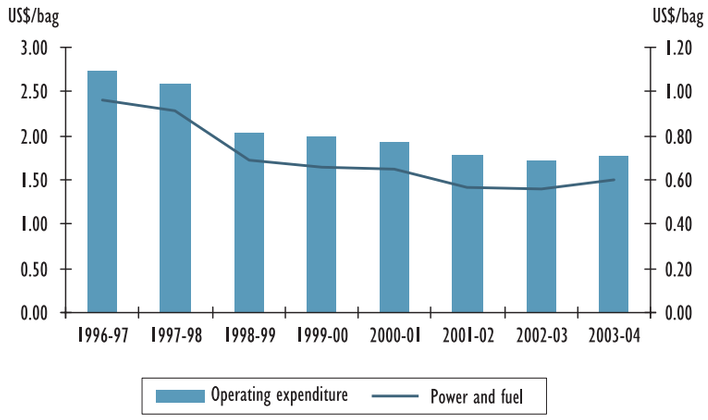


Source: Industry estimates.

Deconstructing costs

Energy (including the landed cost of coal), freight and limestone costs are the major cost components of the cement industry. These costs account for around 35 per cent, 22 per cent and 9.5 per cent of the total production costs respectively.

Decline in energy cost



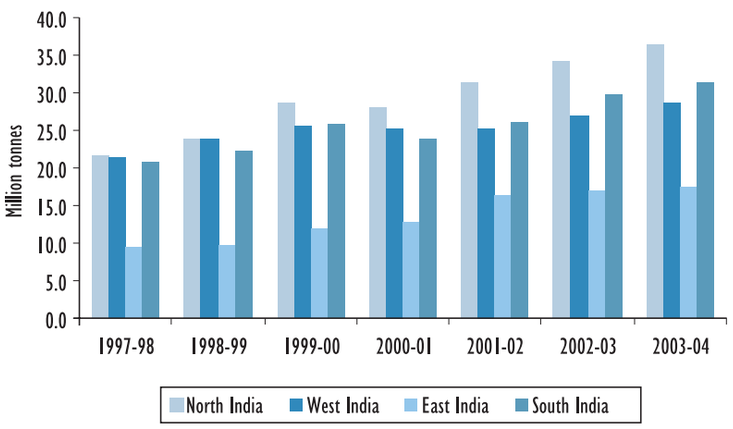
Source: CRISIL.

Indian cement companies have been able to curtail costs through the setting up of captive power plants. There has been a decline in the average coal consumption from 0.18 tonnes per tonne of cement to 0.17 tonnes per tonne due to pyroprocessing systems, increased usage of imported coal (with higher calorific value) and the higher production of blended cement. The switch from the wet process to the dry process of cement manufacturing has also aided in saving energy costs.

Regional dimension

Transporting cement, a bulk commodity, it over long distances is uneconomical. This has resulted in cement being largely a regional play with the industry divided into five main regions. north, south, west, east and the central region. The southern region accounts for the largest share in overall production (29 per cent) due to the vast availability of limestone. This is followed by the northern (21 per cent) and the western regions (19 per cent).

Regional consumption



Source: CRISIL, CMA.

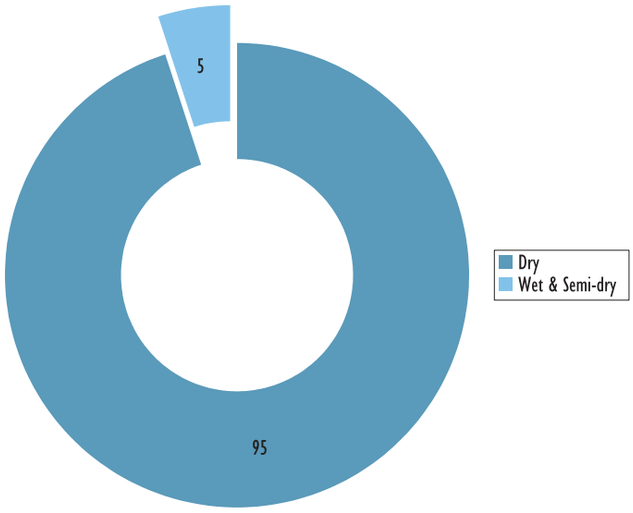
Cement consumption varies across regions due to the differences in the demand-supply balance, per capita income and the level of industrial development in each state. In 2003-04, northern India accounted for the highest proportion of cement consumption (32 per cent), followed by the southern (28 per cent), western (25 per cent) and eastern regions (15 per cent). Over the years it has been observed that demand in the east has been driven by the housing sector, whereas infrastructure, investments in industrial projects and the housing sector (in varying proportions) have propelled demand in the western, northern and southern regions. The western and northern regions are the most lucrative markets due to their higher price realisations.

Indian technology advantage

The manufacturing process of cement consists of the mixing, drying and grinding of limestone, clay and silica into a composite mass. The mixture is then heated and burnt in a pre-heater and kiln to be cooled in an air cooling system to form clinker, which is the semi-finished form. This clinker is cooled by air and subsequently ground with gypsum to form cement.

There are three types of processes to form cement - the wet, semi-dry and dry processes. In the wet/semi-dry process, raw material is produced by mixing limestone and water (called slurry) and blending it with soft clay. In the dry process technology, crushed limestone and raw materials are ground and mixed together without the addition of water.

Process-wise cement in 2003-04



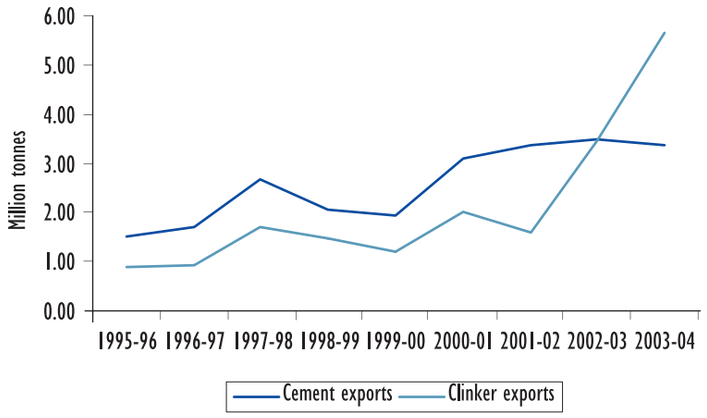
Source: CMA

The dry and semi-dry processes are more fuel-efficient. The wet process requires 0.28 tonnes of coal and 110 kWh of power to manufacture one tonne of cement, whereas the dry process requires only 0.18 tonnes of coal and 100 kWh of power. Coal and power costs account for 35 per cent of the total cement production costs. With 95 per cent of the total capacity based on the modern dry process technology, the Indian cement industry has become more cost efficient. Top companies in the cement industry match quite well with world standards in terms of energy (thermal energy Kcal/kg of clinker - India 665 against 690 of Japan) and pollution norms (SPM of 40 in India against 20 in Japan).

Technological development in the future indicates a tremendous scope for waste heat recovery for co-generation of power, use of industrial by-products as a raw mix component, incineration of combustible wastes in kiln, production of reactive belite clinker, increasing manufacturing of blended cements, use of energy efficient equipment/systems as well as the use of solar and wind energy in order to reduce the carbon dioxide emission level.

Exports

Cement and clinker exports



Source: CMA.

Cement and clinker exports have grown at a CAGR of 18.1 per cent since 1995-96 with total exports of 9 million tonnes in 2003-04. This accounts for 7.7 per cent of the total production. As cement is bulky item, those companies who have their own jetties have a higher share in exports.

Trade in cement is underway with the neighbouring countries and countries in Africa and West Asia. L&T (now a part of Grasim), Gujarat Ambuja Cements Ltd and Jaiprakash Industries are the top exporters. The western region, due to its proximity to the coasts, accounts for 92.4 per cent of total exports, of which Gujarat holds a share of 76 per cent.

There is a significant growth potential in the international market, particularly in South East Asia and the Middle East. According to CRISIL estimates, exports are likely to grow at a CAGR of 10-12 per cent over the next 4-5 years.

Domestic players

Associated Cement Companies Ltd (ACCL)

Associated Cement Companies Ltd manufactures ordinary portland cement, composite cement and special cement and has begun offering its marketing expertise and distribution facilities to other producers in cement and related areas. It has twelve manufacturing plants located throughout the country with exports to SAARC nations. The company plans capital expenditure through expansion of existing units and/or through acquisitions. Non-core assets are to be divested to release locked up capital. It is also expected to actively pursue overseas project engineering and consultancy services.

Birla Corp

Birla Corp's product portfolio includes acetylene gas, auto trim parts, casting, cement, jute goods, yarn, calcium carbide etc. The cement division has an installed capacity of 4.78 million metric tonnes and produced 4.77 million metric tonnes of cement in 2003-04. The company has two plants in Madhya Pradesh and Rajasthan and one each in West Bengal and Uttar Pradesh and holds a market share of 4.1 per cent. It manufactures Ordinary portland cement (OPC), portland pozzolana cement, fly ash-based PPC, Low-alkali portland cement, portland slag cement, low heat cement and sulphate resistant cement. Large quantities of its cement are exported to Nepal and Bangladesh. Going forward, the company is setting up its captive power plant to remain cost competitive.

Century Textiles and Industries Ltd (CTIL)

The product portfolio of CTIL includes textiles, rayon, cement, pulp & paper, shipping, property & land development, builders and floriculture. Cement is the largest division of CTIL and contributes to over 40 per cent of the company's revenues. The company has an installed capacity of 4.7 million tonnes with a total cement production of 5.43 million tonnes in 2003-04. CTIL has four plants that manufacture cement, one in Chhattisgarh, two in Madhya Pradesh and one in Maharashtra. Going forward, the company has scripted a three-pronged strategy closing down its shipping business, continuing with its chemicals and adhesive division, and focusing on cement, rayon and paper as its long-term business plan.

Grasim-UltraTech Cemco

Grasim's product profile includes viscose staple fibre (VSF), grey cement, white cement, sponge iron, chemicals and textiles. With the acquisition of UltraTech, L&T's cement division in early 2004, Grasim has now become the world's seventh largest cement producer with a combined capacity of 31 million tonnes. Grasim (with UltraTech) held a market share of around 21 per cent in 2003-04. It has plants in Madhya Pradesh, Chhattisgarh, Punjab, Rajasthan, Tamil Nadu and Gujarat among others. The company plans to invest over US$ 9 million in the next two years to augment capacity of its cement and fibre business. Its also plans to focus on its international ventures, ramping up the capacity of Alexandra Carbon Black in Egypt to 1,70,000 tonne per annum (from 1,20,000 tpa) and raising the capacity of the carbon black plant in China from 12,000 tpa to 60,000 tpa.

Gujarat Ambuja Cements Ltd (GACL)

Gujarat Ambuja Cements Ltd was set up in 1986 with the commencement of commercial production at its 2 million tonne plant in Chandrapur, Maharashtra. The group has clinker-manufacturing facilities at Himachal Pradesh, Gujarat, Maharashtra,

Chhattisgarh, Punjab and Rajasthan. The company has a market share of around 10 per cent, with a strong foothold in the northern and western markets. Its total sales aggregated US$ 526 million with a capacity of 12.6 million tonnes in 2003-04. Gujarat Ambuja is India's largest cement exporter and one of the most cost efficient firms. GACL has a 14.45 per cent stake in ACC, making it the second largest cement group in the country, after Grasim-UltraTech Cemco.

The company has free cash flows that it is likely to use to grow inorganically. The company is scouting for a capacity of around two million tonne in the northern and western markets. It has also earmarked around US$ 195-220 million for acquisitions

India Cements

India Cements is the largest cement producer in southern India with a total capacity of 8.81 million tonnes and plants in Andhra Pradesh and Tamil Nadu. The company has a market share of 5.4 per cent with a total cement production of 6.36 million tonnes in 2003-04. Its product portfolio includes ordinary portland cement and blended cement. The company has limited its business activity to cement, though it has a marginal exposure to the shipping business. The company plans to reduce its manpower significantly and exit non-core businesses to turnaround its fortune. It also expects the export market to open up, with the Gulf emerging as a major importer.

Jaiprakash Associates Limited

Jaiprakash Industries, now known as Jaiprakash Associates Limited (JAL) is part of the Jaypee Group with businesses in civil engineering, hospitality, cement, hydropower, design consultancy and IT. It has an annual capacity of 4.6 million tonnes with plants located in Rewa & Bela (Madhya Pradesh) and Sadva Khurd (Uttar Pradesh). The company has a market share of 3.8 per cent with

the cement division contributing US$ 172 million to revenue in 2003-04. The company is upgrading its capacity to 6.5 million tonnes through the modernising of the existing units and the commissioning of a new grinding unit at Tanda (Uttar Pradesh) with an investment of US$ 163 million. Jaiprakash Associates has decided to concentrate on its core business of construction and engineering and leave its cement plant to its subsidiary Jaypee Rewa Cement Ltd. The company manufactures a wide range of world class cement of OPC grades 33,43,53, IRST-40 and special blends of pozzolana cement.

JK Synthetics

JK Synthetics, a Singhania Group company, started manufacturing nylon at Kota in 1962. Subsequently, it diversified into PSY/PFY, nylon tyre-cord, cement (in 1975), acrylic and white cement (in 1984). The company has a market share of 2.7 per cent. JK Synthetics Limited is restructuring its business divisions into two separate entities- JK Cements and JK Synthetics. After the restructuring, it will be left with a cement plant at Nimbahera in Rajasthan, with a capacity of 3.26 million metric tonnes and manufacturing white cement.

Madras Cements

Madras Cements Ltd is one of the oldest cement companies in the southern region and is a part of the Ramco group. The company is engaged in cement, clinker, dolomite, dry mortar mix, limestone, ready mix cement (RMC) and units generated from windmills. The company has three plants in Tamil Nadu, one in Andhra Pradesh and a mini cement plant in Karnataka. It has a total capacity of 5.47 million tonnes annually and holds a market share of 3.1 per cent. Madras Cements plans to expand by putting up RMC plants. As Karnataka is a promising market, the company is further expanding its capacity from the present 1.5 million tonnes to 3.4 million tonnes through an investment of US$ 9 million.

Foreign players

Holcim

Holcim, earlier known as Holderbank, has a cement production capacity of 141.9 million tonnes. It is a key player in aggregates, concrete and construction related services. It has a strong market presence in over 70 countries and is a market leader in south America and in a number of European and overseas markets. Holcim entered India by means of a long-term strategic alliance with Gujarat Ambuja Cements Ltd (GACL). The alliance aims to strengthen their clinker and cement trading activities in South Asia, the Middle East and the region adjoining the Indian Ocean. Holcim also intends to use India as an additional base for its IT operations, R&D projects as well as a procurement sourcing hub to generate additional synergies and value for the group.

Italcementi Group

The Italecementi group is one of the largest producers and distributors of cement with 60 cement plants, 547 concrete batching units and 155 quarries spread across 19 countries in Europe, Asia, Africa and North America. Italcementi is present in the Indian markets through a 50:50 joint venture company with Zuari Cements. All initiatives in southern India are routed through the joint venture company, while Italcementi is free to buy deals in its individual capacity in northern India. The joint venture company has a capacity of 3.4 million tonnes and a market share of 2.1 per cent.

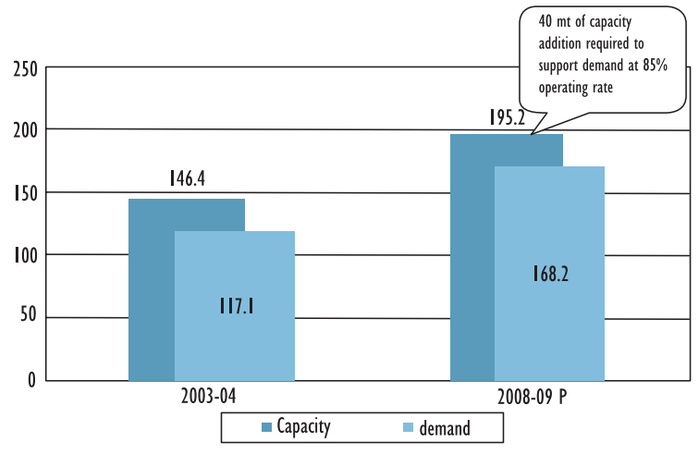
Lafarge India

Lafarge India Pvt Ltd, a subsidiary of the Lafarge Group, has a total cement capacity of 5 million tonnes and a clinker capacity of 3 million tonnes in the country. Lafarge commenced operations in 1999 and currently has a market share of 3.4 per cent. It exports clinker and cement to Bangladesh and Nepal. It produces portland slag cement, ordinary portland cement and portland pozzolana cement. The Indian cement plants are located in Chhattisgarh and Rajasthan. Lafarge Cement has become the largest cement selling firm in the Indian markets of West Bengal, Bihar, Jharkhand and Chhattisgarh.

MARKET/OPPORTUNITIES FOR INVESTMENT

Growing demand-supply gap

Capacity additions (million tonnes)



P: Provisional

Source: CRISIL.

According to CRISIL estimates, given the demand-supply gap of roughly 40 million tonnes, capacity addition is expected over the next five years. Of this, almost 30 million tonnes will be met through greenfield/brownfield expansions and 10 million tonnes through blending. The capacity addition of 30 million tonnes would require an investment of around US$ 2.2 billion.

Consolidation opportunity: Mergers and Acquisitions

Cement capacity that can be sold

	Million tonnes
East	1.20
West	2.36
North	10.37
South	9.42
Total	23.35

Source: CRISIL.

Consolidation is expected to increase further in the cement industry. Around 23 million tonnes of additional capacity could be sold simply because on a stand-alone basis these units are unviable. As part of a larger group, their operations could be cost effective. This opens up a number of possibilities for acquisitions and mergers.

The infrastructure opportunity

The National Highways Development Project (NHDP) includes the 5,846 km Golden Quadrilateral (GQ) and the 7,300 km North-South, East-West (NS-EW) corridor. In addition, upgradation of rural roads, upgradation to four/six lanes of about 13,000 km of National Highways and 10,000 km of additional highways have been initiated.

The NHDP is expected to lay a significant part of the roads in cement concrete. Thus, if 25 per cent of the roads of East-West corridors are laid by concrete, it is likely to lead to an incremental demand of 5-6 million tonnes of cement per annum. Likewise, the Golden Quadrilateral is expected to add 4-5 million tonnes of demand per annum. The total demand from these road projects is

expected to generate an incremental growth of 4-5 per cent per annum over the next 2-3 years.

Among other infrastructure sectors, construction and modernisation of four airports and two seaports, railroad, power plants and water management systems are also likely to boost the demand for cement, in particular the ready-mix cement.

Push from housing

Over the next five years, the numbers of households are expected to increase at a CAGR of 2.3 per cent, against a population growth rate of over 1.7 per cent. The growth in urban households will be higher than rural households, shifting the rural-urban household ratio from 70:30 to 67:33. As the growth in households is higher than the population growth, it will accelerate the demand for new houses.

Higher demand and greater affordability due to lower interest rates and tax breaks is expected to trigger an unprecedented housing boom. The housing finance industry has estimated a latent demand of 33 million houses and forecasts a growth of 50 per cent per annum till 2007. With the housing sector accounting for 50 per cent of the current cement demand, this boom is expected to propel even higher cement demand.

Commercial structures and corporate projects

With most industries like textiles, chemicals and plastics, ferrous and non-ferrous metals and non-metallic and mineral products operating at close to full capacity, large investment in capacity expansions across sectors is likely to boost cement demand.

Strong offtake is also expected from select segments such as commercial complexes and multiplexes in important centres such as Bangalore, Hyderabad and Ahmedabad.

CONTACT FOR INFORMATION

Information on the market and opportunities for investment in the infrastructure sector in India can be obtained from the Infrastructure Division (which also covers building materials) of Confederation of Indian Industry (CII). CII works with the objective of creating a symbiotic interface between industry, government and domestic and international investors.

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