

CEMENT



Indian Minerals Yearbook 2015 (Part- III : Mineral Reviews)

54th Edition

CEMENT

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**GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES**

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8 Cement

The Cement Industry in India is among the core Industries that is vital for economic growth and development. Ever since the Industry was delicensed in 1991, there has been remarkable growth that metamorphosed it to a globally competitive Market, making India the second largest producer of cement in the world. Cement is the basic building material and is used extensively in urban housing, industrial sector and infrastructure development. It has become synonymous with construction activity and the per capita consumption of cement is accepted as an important indicator of the country's economic growth.

In terms of quality, technology, productivity and efficiency, India compares well with the best in the world. The demand for cement is closely linked to the overall economic growth, particularly the housing and infrastructure sector. The recent government thrust on housing and infrastructure development augur well for the industry. However, the per capita consumption of cement in India still remains substantially low at about 195 kg when compared with the developed world or world average which stands at about 520 kg. The Indian Cement Industry plays a key role in the national economy, not only by generating substantial revenue for State and Central Governments but also as a key industry that generates maximum employment directly or indirectly. India has a lot of potential for development in the infrastructure and construction sector and the cement sector is poised for a positive growth in the days ahead. Some of the recent major government initiatives such as development of 98 smart cities are expected to provide a major boost to the sector.

India exported about 6.29 million tonnes cement valued at ₹1,847 crore (including 3.97 million tonnes clinker, 1.55 million tonnes of portland grey cement and 0.07 million tonnes white cement) in 2014-15 to Sri Lanka, Nepal, Egypt, Bhutan, Bangladesh and Myanmar, etc.

In 2014-15, there were 209 large cement plants having total annual installed capacity of 350 million tonnes. In addition, there are mini and white cement plants having total estimated capacity of 6 million tonnes per annum. The total installed capacity for cement in the country was thus about 356 million tonnes per annum.

Three cement plants, having a total capacity of 9,90,000 tonnes per year produced white cement. Most of these capacities are modern and based on the energy-efficient dry processing technology.

There are as many as 112 plants with over a million tonnes or more capacity. In the Public Sector, however, there is only one Central Public Sector undertaking i.e., CCI which had 10 operating units, spread over eight States/Union Territories. Except for Bokajan, Rajban and Tandur units, the remaining cement plants have shut operations for more than a decade now. There are five large cement plants owned by various State Government Undertakings like Tamil Nadu Cement, Malabar Cements, J & K Ltd and Mawmluh-Cherra Cement Ltd. The companywise list of cement plants in the country is furnished in Table-1. The companywise and sectorwise annual installed capacities of cement plants are detailed in Table-2 and the production of cement plants is provided in Table-3.

The total production of cement was 276.93 million tonnes in 2014-15 registering a growth of about 8.15% over the preceding year. In 2014-15, the total installed capacity was 356 million tonnes registering a growth of 1.71% over the preceding year. The mini-cement plants were meant to tap scattered limestone resources, mostly in Andhra Pradesh, Gujarat, Rajasthan and Madhya Pradesh.

Data on overall capacity, production and growth in cement industry are given in Table-4.

CEMENT

Table – 1 : Companywise List of Cement Plants, 2014-15

| Company | Plant | Location/State |
|-------------------------------|------------------------------|------------------|
| ACC Ltd | Damodhar Cement Works | West Bengal |
| | Bargarh Cement Works | Odisha |
| | Chaibasa Cement Works | Jharkhand |
| | Chanda Cement Works | Maharashtra |
| | Gagal Cement Works-I | Himachal Pradesh |
| | Gagal Cement Works-II | -do- |
| | Jamul Cement Works | Chhattisgarh |
| | Kudithini Cement Works | Karnataka |
| | Kymore Cement Works | Madhya Pradesh |
| | Lakheri Cement Works | Rajasthan |
| | Madukkarai Cement Works | Tamil Nadu |
| | New Wadi Cement Works | Karnataka |
| | Sindri Cement Works | Jharkhand |
| | Thondebhavi Cement Works | Karnataka |
| | Tikaria Cement Works | Uttar Pradesh |
| | Vizag Cement Works | Andhra Pradesh |
| Wadi Cement Works | Karnataka | |
| Adhunik Cement Ltd | Adhunik Cement Ltd | Meghalaya |
| Aditi Industries | Aditi Industries | Assam |
| Ambuja Cement Ltd | Ambuja Nagar | Gujarat |
| | Bhatapara II | Chhattisgarh |
| | Bhatapara I | -do- |
| | Bhatinda (G) | Punjab |
| | Dadri (G) | Uttar Pradesh |
| | Darlaghat | Himachal Pradesh |
| | Farakka (G) | West Bengal |
| | Magdalla (G) | Gujarat |
| | Maratha | Maharashtra |
| | Nalagarh (G) | Himachal Pradesh |
| | Rabriyawas | Rajasthan |
| | Rauri | Himachal Pradesh |
| | Roorkee (G) | Uttarakhand |
| | Ropar (G) | Punjab |
| Sankrail (G) | West Bengal | |
| Andhra Cements | Vizag (G) | Andhra Pradesh |
| | Nadikuda Durga Cement | -do- |
| Anjani Portland Cement Ltd | Anjani Portland Cement Ltd | -do- |
| Asian Concretes Cement Ltd | Asian Concretes Cement Ltd | Himachal Pradesh |
| Bagalkot Cement & Inds.Ltd | Bagalkot Cement & Inds Ltd | Karnataka |
| Bharti Cement Corpn. Pvt. Ltd | Bharti Cement Corpn Pvt. Ltd | Andhra Pradesh |
| Bhavya Cement Ltd | Bhavya Cement Ltd | -do- |
| Binani Cement Ltd | Sikar | Rajasthan |
| | Sirohi | -do- |

(Contd.)

CEMENT

Table-1 (Contd.)

| Company | Plant | Location/State |
|---------------------------------|----------------------------------|------------------|
| Birla Corporation Ltd | Birla Cement - Raebareli | Uttar Pradesh |
| | Birla Cement Works & Chanderia | Rajasthan |
| | Birla- Durgapur Cement Works | West Bengal |
| | Birla Vikas & Satna Cement Works | Madhya Pradesh |
| Calcom Cement Ltd | Calcom Cement Ltd | Assam |
| Cement Corporation of India Ltd | Adilabad | Andhra Pradesh |
| | Bokajan | Assam |
| | Neemuch | Madhya Pradesh |
| | Rajban | Himachal Pradesh |
| | Tandur | Andhra Pradesh |
| | Akaltara | Chhattisgarh |
| | Charkhi Dadri | Haryana |
| | Delhi | Delhi |
| | Kurkunta | Karnataka |
| Mandhar | Madhya Pradesh | |
| Cement Manufacturing Co. Ltd | Jaintia Hills-Lunshnong | Meghalaya |
| | Sonapur | -do- |
| | Hired | -do- |
| Century Textiles & Inds. Ltd | Maihar | Madhya Pradesh |
| | Manikgarh | Maharashtra |
| | Raipur | Chhattisgarh |
| Cement International Ltd | Barak Cement | Meghalaya |
| Chettinad Cement Corpn Ltd | Ariyalur | Tamil Nadu |
| | Karikali | -do- |
| | Puliyur | -do- |
| | Kallur | Karnataka |
| Dalmia Cement (Bharat) Ltd | Ariyalur | Tamil Nadu |
| | Dalmiapuram | -do- |
| | Cuddapah | Andhra Pradesh |
| | Bokaro | Jharkhand |
| | Belagavi | Karnataka |
| Deccan Cement Ltd | Deccan Cement Ltd | Andhra Pradesh |
| Green Valley Industries Ltd | Green Valley Industries Limited | Meghalaya |
| Gujarat Sidhee Cement Ltd | Gujarat Sidhee Cement Ltd | Gujarat |
| Heidelberg Cement India Ltd | Ammasandra | Karnataka |
| | Damoh | Madhya Pradesh |
| | Jhansi | Uttar Pradesh |
| | Raigad | Maharashtra |

(Contd.)

CEMENT

Table-1 (Contd.)

| Company | Plant | Location/State |
|-----------------------------|-----------------------------|------------------|
| Hemandari Cement Ltd | Hemandari Cement Ltd | Andhra Pradesh |
| India Cements Ltd | Chilamkur Works | Andhra Pradesh |
| | Dalavoi | Tamil Nadu |
| | Parli | Maharashtra |
| | Raasi Cement | Andhra Pradesh |
| | Sankari Durg | Tamil Nadu |
| | Sankarnagar | -do- |
| | Banswara | Rajasthan |
| | Visaka Cement | Andhra Pradesh |
| | Yerraguntla | -do- |
| | Vallur | Tamil Nadu |
| J. S. W Cement Ltd | Dohri | - |
| | Nandyal | - |
| | Vijaynagar | - |
| J.K. Cement Ltd | Gotan | Rajasthan |
| | Gotan-white | -do- |
| | Mangrol | -do- |
| | Muddapur | Karnataka |
| | Nimbahera | Rajasthan |
| Jagdamba Industries Limited | Jagdamba Industries Limited | West Bengal |
| Jaiprakash Associates Ltd | Rewa | Madhya Pradesh |
| | Baga | Himachal Pradesh |
| | Bagheri | -do- |
| | Balaji | Andhra Pradesh |
| | Dalla | Uttar Pradesh |
| | Kachchh | Gujarat |
| | Wanakbori | -do- |
| | Panipat | Haryana |
| | Roorkee | Uttarakhand |
| | Sadva Khurd | -do- |
| | Sidhee | Madhya Pradesh |
| | Sikandarabad | Uttar Pradesh |
| | Ayodhya | -do- |
| | Chunar | -do- |
| Jammu & Kashmir Cements Ltd | Jammu & Kashmir Cements Ltd | Jammu & Kashmir |
| | Mawmluh Cherra | -do- |
| JK Lakshmi Cement Ltd | Jharli | Haryana |
| | Kalol | Gujarat |
| | Sirohi | Rajasthan |
| | Jhajjar | Haryana |
| K. J. S. Cement Ltd | K. J. S. Cement Ltd | Madhya Pradesh |

(Contd.)

CEMENT

Table-1 (Contd.)

| Company | Plant | Location/State |
|--|--|--|
| K.C.P. Ltd | Muktyala Macherla | Andhra Pradesh -do- |
| Kakatiya Cement & Sugar Industries Ltd | Kakatiya Cement & Sugar Industries Ltd | Andhra Pradesh |
| Kalyanpur Cements Ltd | Kalyanpur Cements Ltd | Bihar |
| Kamdhenu Cement Ltd | Powercon Cement Ltd | Uttar Pradesh |
| Kesoram Cement | Basant Nagar Vasavadatta | Andhra Pradesh Karnataka |
| Khyber Industries (P) Ltd | Khyber Industries (P) Ltd | Jammu & Kashmir |
| Lafarge India (P) Ltd | Arasmeta Cement Jojobera Mejia Sonadih Nimbahera | Chhattisgrh Jharkhand West Bengal Chhattisgarh Rajasthan |
| Lanco Industries Ltd | Lanco Industries Ltd | Andhra Pradesh |
| Ramco Cements Ltd | Alathiyur I & II Ariyalur Jayanthipuram Kolaghat Ramasamyraja Nagar Salem Chengelpet Mathodu Vizag | Tamil Nadu -do- Andhra Pradesh West Bengal Tamil Nadu -do- -do- - Andhra Pradesh |
| Malabar Cements Ltd | Palakkad Pallipuram | Kerala -do- |
| Mancherial Cement Ltd | Mancherial Cement Ltd | Andhra Pradesh |
| Mangalam Cement Ltd | Mangalam Cement Ltd & Neershree | Rajasthan |
| Mawmluh Cherra Cements Ltd | Mawmluh Cherra Cements Ltd | Meghalaya |
| Meghalaya Cements Ltd | Meghalaya Cements Ltd | -do- |
| My Home Industries Ltd | My Home Industries Ltd My Home Industries Ltd-Vizag | Andhra Pradesh -do- |
| NCL Industries | Kondapalli Simhapuri | - - |

(Contd.)

CEMENT

Table-1 (Contd.)

| Company | Plant | Location/State |
|---|--|----------------|
| OCL India Ltd | Kapilas | Odisha |
| | Rajgangpur | -do- |
| | Bengal West | West Bengal |
| Orient Cement | Devapur | Andhra Pradesh |
| | Jalgaon | Maharashtra |
| Panyam Cement & Mineral Industries Ltd | Panyam Cement & Mineral Industries Ltd | Andhra Pradesh |
| Parasakti Cement Ltd | Parasakti Cement Ltd | Andhra Pradesh |
| Penna Cement Industries Ltd | Boyareddypalli | Andhra Pradesh |
| | Ganeshpahad | -do- |
| | Tadipatri I & II | -do- |
| | Tandur | -do- |
| Prism Cement Ltd | Prism Cement Ltd - I & II | Madhya Pradesh |
| Purbanchal Cement Ltd | Purbanchal Cement Ltd | Assam |
| Rain Cements Ltd | Kurnool | Andhra Pradesh |
| | Ramapuram | -do- |
| Reliance Cement Company Private Limited | Butibori | Maharashtra |
| | Durgapur | - |
| | Kandanganj | - |
| | Maihar | Madhya Pradesh |
| RNB Cements (P) Ltd | RNB Cements (P) Ltd | Meghalaya |
| Sagar Cement Ltd | Sagar Cement Ltd | Andhra Pradesh |
| Sanghi Cement Ltd | Sanghi Cement Ltd | Delhi |
| Sanghi Industries Ltd | Sanghi Industries Ltd | Gujarat |
| Saurashtra Cement Ltd | Saurashtra Cement Ltd | -do- |
| Shree Cement Ltd | Bangur Cement - A Unit of Shree Cement | Bihar |
| | Jaipur | Rajasthan |
| | Khushkhera | -do- |
| | Ras | -do- |
| | Roorkee | Uttarakhand |
| | Suratgarh | Rajasthan |
| | Beawar | -do- |
| | Baloda Bazar | - |
| Panipat | Haryana | |

(Contd.)

CEMENT

Table-1 (Contd.)

| Company | Plant | Location/State |
|--|---|--|
| Shree Chakra Cement | Guntur Vizianagaram | Andhra Pradesh -do- |
| Shree Digvijay Cement Co. Ltd | Shree Digvijay Cement Co. Ltd | Gujarat |
| Shree Jagjothi Cement Ltd | Shree Jagjothi Cement Ltd | Tamil Nadu |
| Shriram Cement Works | Shriram Cement Works | Rajasthan |
| Sparta Cements & Infrastructure Ltd | Swasta Cements Ltd. | - |
| Tamil Nadu Cements Corpn Ltd | Alangulam Ariyalur | Tamil Nadu -do- |
| Tata Chemicals Ltd | Tata Chemicals Ltd | Gujarat |
| UltraTech Cement Ltd | AP Cement Works Hirmi Cement Works Gujarat Cement Works Jafrabad Cement Works Magdalla Cement Works Panipat Cement Works Rawan Cement Works Aditya Cement Works Aligarh Cement Works Arakkonam Cement Works Awarpur Cement Works Bathinda Cement Works Dadri Cement Works Ginigera Cement Works (G) Hotgi Cement Works Jharsuguda Cement Works Kotputli Cement Works Rajashree Cement Works Ratnagiri Cement Works Reddipalayam Cement Works Vikram Cement Works West Bengal Cement Works Sewagram Wanakbori | Andhra Pradesh Chhattisgarh Gujarat -do- -do- Haryana Chhattisgarh Rajasthan Uttar Pradesh Tamil Nadu Maharashtra Punjab Uttar Pradesh Karnataka Maharashtra Odisha Rajasthan Karnataka Maharashtra Tamil Nadu Madhya Pradesh West Bengal - Gujarat |
| Uma Cement Industries | Uma Cement Industries | Jammu & Kashmir |
| Vicat Sagar Cement | Vicat Sagar Cement | Andhra Pradesh |

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CEMENT

Table-1 (Concl.d.)

| Company | Plant | Location/State |
|-------------------|---------------------------|----------------|
| Wonder Cement Ltd | Wonder Cement Ltd | Rajasthan |
| Zuari Cement Ltd | Chennai | Tamil Nadu |
| | Krishnanagar | Andhra Pradesh |
| | Sri Vishnu Cement | -do- |
| Others | | |
| | Sparta Cements & Infra. | |
| | Sagar Cement | |
| | Asian Cement | |
| | Wonder Cement | |
| | Tata Chemicals Limited | |
| | Bharathi Cement | |
| | Purbanchal Cement | |
| | Parasakti Cement | |
| | Bhavya Cement | |
| | Deccan Cement | |
| | KJS Cement | |
| | Sri Jaya Jyoti Cement | |
| | Kalburgi Cement | |
| | Calcom Cement | |
| | Mancherial Cement | |
| | Udaipur Cement | |
| | Shree Digvijay-Sikka | |
| | Bagalkot Cement & Ind Ltd | |
| | Kalyanpur Cement | |
| | Panyam Cement | |
| | Shriram Cement | |
| | Sanghi Industries Ltd | |
| | Meghalaya Cements Ltd | |
| | Khyber Industries (P) Ltd | |
| | Anjani Portland Cements | |
| | Amrit Cement | |
| | Barak Valley Cement | |
| | Bheema Cement | |
| | Burnpur Cement | |
| | Green Valley Industries | |
| | Hi-Bond cement | |
| | JUD Cements | |
| | Keerthi Industries | |
| | RNB Cement | |
| | Swasata Cements Ltd | |
| | Toshali Cements | |
| | Adhunik Cement | |
| | Murli Industries | |
| | Bhilai Jaypee (G) | |
| | BMM Cement | |
| | Bokaro Jaypee (G) | |
| | Hills Cement Company | |
| | Megha Tech | |

Source: Survey of Cement Industry and Directory, 2015

CEMENT

Table – 2 : Companywise Installed Capacities of Cement Plants, 2014-15

| Group/Plant | Capacity (million tonnes) |
|---------------------------|---------------------------|
| Public Sector | |
| C.C.I. Ltd | |
| Adilabad | 0.40 |
| Akaltara | 0.40 |
| Bokajan | 0.20 |
| Charkhi Dadri | 0.17 |
| Kurkunta | 0.20 |
| Mandhar | 0.38 |
| Neemuch | 0.40 |
| Rajban | 0.24 |
| Tandur | 1.00 |
| Delhi (G) | 0.50 |
| Malabar Cements | |
| Malabar Cements | 0.42 |
| Malabar Cements (G) | 0.20 |
| Tamil Nadu Cement | |
| Alangulam | 0.40 |
| Ariyalur | 0.50 |
| Others | |
| J&K Cement Ltd | 0.40 |
| Mawmluh Cherra Cement Ltd | 0.20 |
| Private Sector | |
| Andhra Cements | |
| Vizag (G) | 0.56 |
| Nadikude Durga Cement | 2.00 |
| Binani Cement | |
| Sirohi | 4.85 |
| Sikar (G) | 1.40 |
| Birla Corp. Ltd | |
| Chandera | 3.50 |
| Satna | 3.00 |
| Durgapur (G) | 2.30 |
| Raebareli (G) | 0.80 |

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CEMENT

Table-2 (Contd.)

| Group/Plant | Capacity million tonnes) |
|--|--------------------------|
| Cement Manufacturing Co. Ltd | |
| Lumshnong | 0.60 |
| Sonapur (G) | 1.80 |
| Hired (G) | 0.40 |
| Century Textiles and Industries Ltd | |
| Century Cement | 2.10 |
| Maihar Cement | 4.20 |
| Manikgarh Cement | 5.00 |
| Cement International Limited | |
| Barak Valley Cement | 1.50 |
| Chettinad Cement | |
| Puliyur | 1.70 |
| Karikkali | 4.50 |
| Ariyalur | 5.50 |
| Kallur | 2.50 |
| Dalmia Cement (Bharat) Ltd | |
| Dalmiapuram | 4.00 |
| Cuddapah | 2.50 |
| Ariyalur | 3.00 |
| Bokaro | 2.10 |
| Belagavi | 2.50 |
| Heidelberg Cement (I) Ltd | |
| Ammasandra | 0.51 |
| Damoh | 2.00 |
| Jhansi (G) | 2.70 |
| Dolvi (G) | 1.00 |
| India Cements Ltd | |
| Sankarnagar | 2.05 |
| Sankaridurg | 0.86 |
| Chilamkur Works | 1.46 |
| Dalavoi | 1.85 |
| Visaka Cement | 2.40 |
| Yerraguntla | 0.73 |
| Raasi Cement | 2.50 |
| Vallur (G) | 1.10 |
| Parli (G) | 1.10 |
| Banswara | 1.50 |
| JSW | |
| Dohri | 1.00 |
| Nandyal | 4.80 |
| Vijayanagar | 0.60 |

(Contd.)

CEMENT

Table-2 (Contd.)

| Group/Plant | Capacity (million tonnes) |
|----------------------------------|---------------------------|
| J.K. Cement Ltd | |
| Nimbahera | 3.25 |
| Mangrol | 2.25 |
| Gotan | 0.50 |
| Muddapur | 3.00 |
| Gotan White | 0.41 |
| JK Lakshmi Cement Ltd | |
| Sirohi | 4.65 |
| Kalol (G) | 0.69 |
| Jharli(G) | 1.80 |
| Jhajjar | 1.30 |
| Jaiprakash Associates Ltd | |
| Dalla | 0.50 |
| Chunar (G) | 2.50 |
| Rewa | 4.40 |
| Sadva Khurd | 0.60 |
| Ayodhya (G) | 1.00 |
| Roorkee (G) | 1.20 |
| Bagheri (B & G) | 2.00 |
| Baga | 1.50 |
| Sikandrabad (G) | 1.00 |
| Himachal | 1.59 |
| Jayprakash Power Ventures (G) | 2.00 |
| The K.C.P. Ltd | |
| Macherla | 0.82 |
| Muktyala | 1.52 |
| Kesoram Industries | |
| Kesoram Cement | 1.75 |
| Vasvadatta Cement | 9.00 |
| Lafarge India(P) Ltd | |
| Arasmeta | 1.60 |
| Sonadih | 0.55 |
| Jojobera(G) | 4.60 |
| Mejia (G) | 1.00 |
| Nimbahera | 2.60 |
| Mangalam Cement Ltd | |
| Mangalam Cement | 3.25 |
| Neer Shree Cement | - |

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CEMENT

Table-2 (Contd.)

| Group/Plant | Capacity (million tonnes) |
|--|---------------------------|
| Mehta Group | |
| Saurashtra Cement | 1.50 |
| Gujarat Sidhee Cement | 1.40 |
| My Home Industries Ltd | |
| My Home Industries Ltd | 3.20 |
| My Home-Vizag (G) | 2.00 |
| NCL Industries | |
| Kondapalli (G) | 0.99 |
| Simhapuri | - |
| OCL India Ltd | |
| Rajgangpur | 4.00 |
| Kapilas (G) | 1.35 |
| Bengal Werhs | 1.35 |
| Orient Paper and Industries Ltd | |
| Orient Cement | 3.00 |
| Orient Cement-Jalgaon (G) | 2.00 |
| Penna Cement Industries Ltd | |
| Tadipatri I&II | 1.80 |
| Ganeshpahad | 1.20 |
| Boyareddypalli | 2.00 |
| Tandur | 2.00 |
| Prism Cement Ltd | |
| Prism Cement-I & II | 7.00 |
| Rain Cements Ltd | |
| Kurnool | 2.16 |
| Ramapuram | 1.50 |
| Reliance Cement | |
| Butibori (G) | 0.50 |
| Durgapur (G) | 0.30 |
| Kundanganj (G) | 2.00 |
| Maihar | 3.00 |
| Ramco Cements Ltd | |
| Ramasamyraja Nagar | 2.00 |
| Jyantipuram | 3.65 |
| Alathiyur Works | 3.05 |
| Ariyalur | 3.50 |
| Salem (G) | 1.60 |
| Kolaghat (G) | 0.95 |
| Changelpet(G) | 0.50 |
| Methodu | 0.29 |
| Vizag (G) | 0.90 |

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CEMENT

Table-2 (Contd.)

| Group/Plant | Capacity (million tonnes) |
|------------------------------|---------------------------|
| Shree Cements | |
| Baloda Bazar | 2.60 |
| Beawar | 3.00 |
| Ras | 7.00 |
| Khushkhera (G) | 3.00 |
| Suratgarh (G) | 1.20 |
| Roorkee (G) | 1.80 |
| Jaipur (G) | 1.50 |
| Bangur Cement Aurangabad (G) | 2.00 |
| Panipat (G) | 1.50 |
| Sri Chabra Cements | |
| Guntur | 0.70 |
| Vizianagaram | 0.30 |
| UltraTech Cement Ltd | |
| Aditya | 5.20 |
| Aligarh(G) | 1.30 |
| Anantapur (A.P) | 6.50 |
| Arakkonam (G) | 1.10 |
| Awarpur | 6.00 |
| Bhatinda | 1.75 |
| Dadri (G) | 1.30 |
| Ginigera (G) | 1.30 |
| Amreli | 6.40 |
| Hirmi | 2.75 |
| Hotgi | 4.08 |
| Jafrabad | 0.50 |
| Jharsuguda (G) | 2.60 |
| Kotputli | 3.30 |
| Magdalla (G) | 0.75 |
| Panipat(G) | 1.30 |
| Rajashree | 6.10 |
| Ratnagiri (G) | 0.48 |
| Rawan | 2.50 |
| Reddipalayam | 1.40 |
| Sewagram | 3.20 |
| Vikram | 3.00 |
| Wanakbori (G) | 2.40 |
| WBCW (G) | 1.40 |
| Zuari Cement Ltd | |
| Zuari Cement | 5.40 |
| Sri Vishnu Cement | 1.40 |
| Chennai (G) | 1.00 |
| Ambuja Cement Ltd | |
| Kodinar | 5.50 |
| Magdalla (G) | 1.20 |
| Maratha Cement | 4.50 |
| Ambuja Cement-H.P. | 1.60 |
| Ambuja Cement (G) | 1.50 |
| Ropar (G) | 2.50 |
| Bathinda (G) | 0.82 |
| Rabriyawas | 2.60 |
| Roorkee (G) | 1.00 |
| Dadri- (G) | 1.80 |
| Bhatapara | 2.90 |
| Sankrail (G) | 1.50 |
| Farakka (G) | 1.00 |

(Contd.)

CEMENT

Table-2 (Concl.)

| Group/Plant | Capacity (million tonnes) |
|---------------------------|---------------------------|
| ACC Ltd | |
| Lakheri | 1.50 |
| Gagal-I | 2.00 |
| Gagal-II | 2.40 |
| Tikaria (G) | 3.00 |
| Kymore | 2.72 |
| Chaibasa | 0.90 |
| Sindri | 1.00 |
| Bargarh | 2.14 |
| Damodar | 0.53 |
| Jamul | 1.58 |
| Chandarapur | 3.84 |
| Madukkarai | 1.08 |
| Ballari (G)] | 1.10 |
| Kolar (G)] | 1.66 |
| Wadi | 5.79 |
| Wadi-New | |
| Others | |
| Sparta Cements & Infra. | 1.00 |
| Sagar Cement | 2.75 |
| Asian Cement | 2.83 |
| Wonder Cement | 3.25 |
| Tata Chemicals Limited | 0.50 |
| Bharathi Cement | 5.00 |
| Purbanchal Cement | 0.36 |
| Parasakti Cement | 0.94 |
| Bhavya Cement | 1.40 |
| Deccan Cement | 2.30 |
| KJS Cement | 2.27 |
| Sri Jaya Jyoti Cement | 3.20 |
| Kalburgi Cement | 2.75 |
| Calcom Cement | 1.72 |
| Mancherial Cement | 0.33 |
| Udaipur Cement | 0.60 |
| Shree Digvijay-Sikka | 1.08 |
| Bagalkot Cement & Ind Ltd | 0.60 |
| Kalyanpur Cement | 1.00 |
| Panyam Cement | 1.35 |
| Shriram Cement | 0.40 |
| Sanghi Industries Ltd | 3.74 |
| Meghalaya Cements Ltd | 0.65 |
| Khyber Industries (P) Ltd | 0.33 |
| Anjani Portland Cements | 1.30 |
| Amrit Cement | 1.00 |
| Barak Valley Cement | 0.33 |
| Bheema Cement | 0.90 |
| Burnpur Cement | 0.33 |
| Green Valley Industries | 1.00 |
| Hi-Bond cement | 1.20 |
| JUD Cements | 0.50 |
| Keerthi Industries | 0.62 |
| RNB Cement | 0.40 |
| Swasata Cements Ltd | 1.50 |
| Toshali Cements | 0.44 |
| Adhunik Cement | 1.50 |
| Murli Industries | 3.00 |
| Bhilai Jaypee (G) | 2.20 |
| BMM Cement | 1.00 |
| Bokaro Jaypee (G) | 2.10 |
| Hills Cement Company | 1.00 |
| Megha Tech | 0.70 |

Source: Survey of Cement Industry and Directory, 2015

CEMENT

**Table – 3 : Companywise Production of Cement, 2014-15
(Large Cement Plants)**

| Company | Production (million tonnes) |
|--|-----------------------------|
| ACC Ltd | 23.84 |
| Birla Corp. Ltd | 7.62 |
| CCI Ltd ^(e) | 0.83 |
| J.K. Group | 6.3 |
| J.K. Lakshmi Cement ^(e) | 4.21 |
| Century Textiles ^(e) | 7.65 |
| India Cements | 9.80 |
| Tamil Nadu Cement ^(e) | 0.59 |
| Ramco Cement | 7.69 |
| Gujarat Sidhee Cement ^(e) | 2.59 |
| Ultra Tech Cement Ltd | 43.88 |
| Ambuja Cements Ltd | 21.54 |
| Jaypee Cement Ltd ^(e) | 13.52 |
| Kesoram Industries ^(e) | 5.16 |
| Mangalam Cement | 2.14 |
| Orient Paper Industries ^(e) | 4.12 |
| Penna Cement Industries ^(e) | 3.91 |
| Prism Cement | 4.78 |
| Lafarge India (P) Ltd ^(e) | 6.85 |
| Malabar Cements ^(e) | 0.53 |
| Binani Cement | 4.50 |
| Rain Cements Ltd ^(e) | 2.25 |
| KCP Ltd | 1.55 |
| OCL India Ltd | 4.21 |
| Dalmia Cement | 6.6 |
| Cement Manu. Co. Ltd ^(e) | 1.10 |
| Chettinad Cement | 5.55 |
| Zuari Cement Ltd ^(e) | 3.65 |
| Heidelberg Cement (I) Ltd ^(e) | 2.84 |
| Shree Cement | 14.2 |
| Others* | 8.21 |

Figures rounded off.

Source: Annual Reports, 2014-15.(Various cement producing companies)

* In addition, the following plants produced white cement:

- (i) Grasim Industries Ltd (White Cement Division), Kharia Khangar, Jodhpur district, Rajasthan (5,60,000 tpy);
- (ii) J.K. White Cement Works, Gotan, Nagaur district, Rajasthan (4,00,000 tpy); and
- (iii) Travancore Cements Ltd (a Kerala Government Undertaking), Nattakom, Kottayam district, Kerala (30,000 tpy).

CEMENT

Table – 4 : Capacity, Production and Growth in Cement Industry, 2010-11 to 2014-15

(In million tonnes)

| Year | Capacity growth | | | Production growth | | |
|---------|-----------------|--------|----------|-------------------|--------|---------|
| | Annual capacity | Growth | % Growth | Production | Growth | Growth% |
| 2010-11 | 296.48(e) | 19.71 | 7.12 | 216.28(e) | 11.33 | 5.53 |
| 2011-12 | 306.21 | 9.73 | 3.28 | 230.25 | 13.97 | 6.45 |
| 2012-13 | 324.94 | 18.73 | 6.11 | 235.11 | 4.86 | 2.11 |
| 2013-14 | 350.00 | 25.06 | 7.71 | 256.04 | 20.93 | 8.90 |
| 2014-15 | 356.00 | 6.00 | 1.71 | 276.93 | 20.89 | 8.15 |

Source: Annual Reports, 2014-15

A large number of mega plants with capacity of one million tonnes and above, possessing the latest technological features like roller process, vertical roller mills, process control equipment and efficient pollution control devices have emerged in different parts of the country. The induction of advanced technology has helped the Industry immensely to conserve energy & fuel and thereby save the raw materials substantially.

India is producing different varieties of cements like Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFSC), Oil-well Cement, Rapid Hardening Portland Cement, Sulphate Resistant Portland Cement (SRPC) and White Cement. BIS covers two types of PPC, viz. IS 1489 (Part1): 1991 (reaffirmed 2009) Flyash-based and IS 1489 (Part 2):1991 (Reaffirmed 2009) Calcined clay-based. PPC is suitable for all general construction, particularly, for marine & hydraulic construction and other mass concrete structures. Portland Slag Cement (PSC)-IS 455:1989 (Reaffirmed 2009) is particularly useful for marine works. BIS specifies three grades of OPC – (i) IS 269:1989 (Reaffirmed 2008), i.e., 33 grade suitable for all general constructions, particularly for masonry and plastering works (ii) IS 8112:1989 (Reaffirmed 2009), i. e., 43 grade is particularly

suitable for high strength concrete work, and (iii) IS 12269:1987 (Reaffirmed 2008), i.e., 53 grade suitable for specialised work, such as, precast concrete, prestressed concrete, long span structures/bridges, tall structures, etc. All these varieties of cement are produced strictly conforming to the BIS specifications for maintaining high quality. The Cement Quality Control Order dated 12 February 2003 issued under the BIS Act ensures quality of cement produced and sold in the market.

The cement capacity in the country is mostly concentrated near the main raw material source, i.e., limestone. Other important raw material is coal (0.25 tonnes required per tonne of cement). Many cement plants are situated near the coal belts in eastern Madhya Pradesh, primarily due to two reasons, namely, (i) less freight cost incurred to transport coal, and (ii) inability of domestic coal producers to fulfil supply-requirements of cement plants due to fall in production and prioritised supply to power plants. However, limestone reserves have been the primary consideration in choosing the location of plants. Presence of clusters of capacity and high transportation cost make the cement market regional in nature with the producers supplying cement to areas around the location of the plant.

Operating Cost

Power, coal and freight constitute about 15-20% each of the total production cost of cement while capital cost (interest and depreciation) forms 20-30 per cent. Although the industry is largely under Private Sector, Government controls more than 40% of the cost. Power, coal and freight costs are all regulated by Government bodies, such as, State Electricity Boards, Coal Monopolies and the Railways.

Power is a major parameter that influences the operating cost. Grid power purchased from SEBs is costlier than captive power from coal-based plants by more than 25-30 per cent. Where conditions are favourable, setting up captive wind power farms has become a realistic option for cement plants with operating cost at ₹ 0.50 per unit (kWh) power excluding capital cost, interest and depreciation.

Coal Distribution

Coal being a low value, bulk product with regional concentration of deposits entails freight costs that constitute a substantial part in the production cost of cement. Though, rail is the predominant form of transport, road transport is commonly used by plants located close to pitheads. The Government in its notification to the Cement Industry has permitted cement plants to operate their own captive coal mines. Many cement plants have expressed interest in taking up coal blocks on lease and operating the mines for coal. As proposed by the Government, cement is one of the core sectors for which captive mining blocks would be allocated.

Power Availability

The Industry's average energy consumption is estimated to be about 725 kcal/kg clinker thermal

energy and 80 kWh/t cement electrical energy. The best thermal and electrical energy consumption presently achieved by the Indian Cement Industry is about 667 kcal/kg clinker and 67 kWh/t cement which are comparable to the best reported figures of 660 kcal/kg clinker and 65 kWh/t cement in a developed country like Japan. Since the controls were lifted, aggregate power requirements have grown rapidly with rising cement capacity without commensurate growth in power generating capacity in the country. To offset the power crisis situation, many cement plants have set up installations for captive power generation. Further, as part of reform process in Coal Sector, the Government has also permitted 100% FDI in captive coal blocks in Cement Sector along with Power and Steel Sectors to facilitate and augment power availability.

Freight Costs

Logistics in the Cement Sector affect freight costs to a large extent. The basic raw materials for manufacturing cement, such as, limestone and coal are low value high bulk material and, as a result, entail huge freight cost which form the single largest cost component, usually accounting for 33% of the variable costs. During 1990s, the most significant developments were the emergence of big plants and formations of clusters of cement plants. These clusters, typically located far away from the major consumption centres meant that cement has to be transported over very long distances. The Indian Railways transported 109.8 million tonnes of cement in 2014-15, the same as in 2013-14 as a part of revenue earning freight traffic. Alternatively, the cost-conscious manufacturers have attempted to use sea route for transportation

as sea route is cost-effective and could benefit coast-based manufacturers. Some cement plants have set up dedicated jetties for promoting bulk transportation and export.

Cost Control

Cement producers of the country have continuously attempted to lower the cost by various methods like:

- improved efficiency by increasing usage of captive power;
- locating units closer to the market place;
- increasing production of blended cement;
- availing of various State incentives like sales tax exemption; power tariff; exemption/concession (Himachal Pradesh and Tamil Nadu);
- conversion from wet to dry process, wherever possible, depending on quality of limestone; and
- enhanced capacities to achieve economy of scale. (Expansion is the preferred route as setting up new plant costs thrice the cost of expansion).

Environment

Ministry of Environment and Forests has notified the emission standards for cement plants in 1987, which was subsequently revised in February, 2006. In India, the permissible stack dust emissions from various sources for existing cement plants is 1.50 mg/Nm and 100 mg/Nm for plants located in critically polluted areas. However, the limit for new plants in our country is 50 mg/Nm which is at par with some of the developed countries. All large plants do have in place necessary air pollution control equipment to control dust emissions. Thermal power stations use bituminous or sub-bituminous coal

and produce large volumes of fly ash. Fly ash is a fine powder recovered from gases created by coal-fired electric power generation. These micron sized earth elements consist primarily of silica, alumina and iron. When mixed with lime and water, the fly ash forms a cementitious compound with properties very similar to portland cement. For producing one tonne of cement about 0.2 tonnes of fly ash can be used. It not only reduces the cost of cement produced using fly ash by 5 to 10% but also save costs incurred on account of transportation & disposal of materials and in addition it also saves costs by 30 to 40% on land required for the power projects towards ash handling, i.e, a 1,000 MW project requires around 1,000 acres for ash dykes for a 25 year period for storing of fly ash.

At present, about 95 million tonnes fly ash is generated annually. It is estimated that about 32% utility of fly ash can be made in Cement Industry. Promoting use of fly ash would be a viable environment-friendly measure to manufacture Ordinary Portland Cement (OPC) without having to sacrifice the quality.

The Reliance Cement's Butibori Unit (Phase-I), Maharashtra State was commissioned in 2012 and that of Maihar Unit was on fast track and was slated to be commissioned in 2013. Other projects of Reliance are located at Gondavali (blending unit) and Raebareli (grinding unit) in Uttar Pradesh and Yavatmal (integrated unit) in Maharashtra State. It is learnt that NTPC has plans to manufacture cement near six of its power plants through joint ventures. Grasim Industries Ltd, Ultra Tech Cement Ltd, Sanghi Cement Ltd, India Cements Ltd, Zuari Cement Ltd and My Home Industries Ltd, among others are learnt to have evinced interest in setting up greenfield cement plants in the vicinity of each 4,000 MW ultra power projects in order to utilise the

fly ash that would be generated from them.

Industrial wastes, such as, petcoke, tar waste and by-products, such as, red mud from aluminium industries, ferrous and non-ferrous slag from steel & other industries, phospho-chalk & phospho-gypsum from fertilizer industries, lime sludge from paper & sugar industries, carbide sludge from carbide industries, phosphorus furnace slag, etc. are now finding use in the manufacture of cement.

Ready-Mix Concrete

Ready-mix Concrete (RMC) is a relatively nascent market in India accounting for only about 0.5% of the demand. RMC is ready-to-use concrete blend of cement, sand & aggregate and water mixed in convenient proportion. It was first launched in Mumbai a few years ago and is gaining ground in other metros in India. RMC is a corollary to bulk handling and transportation of cement. It has several advantages. It is produced under controlled conditions and hence has consistency in quality and it can be directly powered in the required form which would not only save time but also would improve the quality of construction.

POLICY

Foreign Trade Policy (FTP) for 2009-14 was announced on 27.08.2009 and came into force w.e.f. 27.08.2009. The Export & Import Policy incorporated in the FTP for cement is free. The import of cement includes portland cement, white cement, aluminous cement, slag cement, super sulphate cement and similar hydraulic cements, whether or not coloured or in the form of clinkers, under ITC (HS) Code 2523 is free. The export of cement is also free.

Development Council for Cement Industry

Development Council for Cement Industry has been set up under Section 6 of the Industrial (Development & Regulation) Act, 1951. The activity of the Council is funded through the cess collected

from Cement Manufacturers in terms of the Cement Cess Rules, 1993. The Cement Council promotes development of the cement industry by funding development projects in areas of base level activities of National Council for Cement & Building Materials and R&D, improving productivity by reducing cost, optimum utilisation of raw materials, modernisation of cement plants, improvement of environment, standardisation and quality control progress, bulk supply and distribution of cement, training and upgradation of skill in cement industry.

WORLD REVIEW

The cement production in 2014 was estimated at 4,180 million tonnes. China (2,480 million tonnes) was the largest producer in the world, contributing about 59% to the world output, followed by India (260 million tonnes) 6%, USA (83 million tonnes) 2% and Japan (54 million tonnes) 1% (Table-5).

FOREIGN TRADE

Exports

Export of cement (total) increased substantially to 6.29 million tonnes in 2014-15 from 5.14 million tonnes in 2013-14. In 2014-15, exports of portland grey cement were 1.55 million tonnes and those of cement clinker 3.97 million tonnes in the total cement exports. Exports of portland white cement and other cements were 71,246 tonnes and 689,099 tonnes, respectively. Exports of cement in 2014-15 were mainly to Sri Lanka (42%), Nepal (22%), Egypt (21%), Bangladesh (7%) and Myanmar (3%) (Tables - 6 to 10).

Imports

Cement imports in 2014-15 increased substantially to 1.09 million tonnes from 0.78 million tonnes in 2013-14. In 2014-15, imports of portland grey cement were 8.64 lakh tonnes, those of cement clinker 0.5 lakh tonnes, other cements 1.62 lakh tonnes and portland white cement about 13 thousand tonnes and the main suppliers in 2014-15 were Pakistan (74%), Bangladesh (19%) and UAE (4%) (Tables- 11 to 15).

CEMENT

**Table – 5 : World Production of Cement
(By Principal Countries)**

| Country | (In '000 tonnes) | | |
|-------------------------------|------------------|----------------|----------------|
| | 2012 | 2013 | 2014 |
| World: Total (rounded) | 3800000 | 4080000 | 4180000 |
| Brazil | 68800 | 70000 | 72000 |
| China | 2210000 | 2420000 | 2480000 |
| Egypt | 46100 | 50000 | 50000 |
| Germany | 32400 | 31300 | 32000 |
| India | 270000 | 280000 | 260000 |
| Indonesia | 32000 | 56000 | 65000 |
| Iran | 70000 | 72000 | 65000 |
| Italy | 33000 | 22000 | 22000 |
| Japan | 51300 | 57400 | 53800 |
| Korea, Rep. of | 48000 | 47300 | 63200 |
| Mexico | 35400 | 34600 | 35000 |
| Pakistan | 32000 | 31000 | 32000 |
| Russia | 61500 | 66400 | 68400 |
| Saudi Arabia | 50000 | 57000 | 55000 |
| Thailand | 37000 | 42000 | 35000 |
| Turkey | 63900 | 71300 | 75000 |
| USA | 74900 | 77400 | 83200 |
| Vietnam | 60000 | 58000 | 60500 |
| Other countries | 523700 | 536000 | 573000 |

Source: Mineral Commodity Summaries, 2015 & 2016.

**Table – 6 : Exports of Cement : Total
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|----------------|-----------------|----------------|-----------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 5140758 | 15990899 | 6287576 | 18468569 |
| Sri Lanka | 1963953 | 6276514 | 2660318 | 8259755 |
| Nepal | 999014 | 2974113 | 1399632 | 3971035 |
| Egypt | - | - | 1350223 | 3319702 |
| Bangladesh | 295929 | 708410 | 418018 | 1098567 |
| Myanmar | 167043 | 563419 | 159086 | 548722 |
| Bhutan | 240203 | 1170219 | 80505 | 307298 |
| South Africa | 16481 | 144551 | 62724 | 264097 |
| Oman | 2085 | 15854 | 56524 | 173225 |
| Maldives | 23804 | 93006 | 35807 | 156398 |
| Nigeria | 8980 | 80076 | 7151 | 68134 |
| Other countries | 1423266 | 3964737 | 57588 | 301636 |

**Table – 7: Exports of Cement (Portland Grey)
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|----------------|----------------|----------------|----------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 1987115 | 6824005 | 1553244 | 5151055 |
| Sri Lanka | 1291078 | 4138307 | 1203077 | 3920661 |
| Nepal | 159612 | 658053 | 211852 | 693392 |
| Bhutan | 228410 | 1108091 | 57372 | 219876 |
| Maldives | 23486 | 91444 | 34989 | 150835 |
| Madagascar | 35933 | 118753 | 17514 | 57142 |
| Seychelles | 19392 | 82443 | 12547 | 53677 |
| Comoros Is | 23448 | 78778 | 6190 | 20491 |
| Tanzania Rep | 28 | 125 | 3724 | 14100 |
| Mozambique | 64620 | 179958 | 2800 | 9866 |
| Mauritius | - | - | 2016 | 7036 |
| Other countries | 141108 | 368053 | 1163 | 3979 |

**Table – 8: Exports of Cement (Portland White)
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|--------------|---------------|--------------|---------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 80732 | 640733 | 71246 | 536679 |
| Nepal | 12124 | 87603 | 28757 | 168457 |
| South Africa | 16200 | 139454 | 18694 | 162203 |
| Nigeria | 8925 | 80019 | 7145 | 68092 |
| Oman | 2015 | 15336 | 6524 | 46840 |
| Philippines | 420 | 3246 | 2910 | 22688 |
| Sri Lanka | 5152 | 40234 | 1596 | 12455 |
| Thailand | 6076 | 47390 | 1064 | 8258 |
| Congo, P. Rep. | - | - | 308 | 5199 |
| Djibouti | 298 | 2872 | 435 | 4454 |
| Kenya | 6859 | 54753 | 469 | 4360 |
| Other countries | 22663 | 169826 | 3344 | 33673 |

**Table – 9 : Exports of Cement Clinker
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|----------------|----------------|----------------|-----------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 2425903 | 6219787 | 3973987 | 10373003 |
| Egypt | - | - | 1350140 | 3316554 |
| Sri Lanka | 400012 | 1131489 | 1083627 | 3050800 |
| Nepal | 662351 | 1640780 | 1024911 | 2671748 |
| Bangladesh | 295885 | 707955 | 417926 | 1097143 |
| Oman | - | - | 50000 | 126385 |
| South Africa | - | - | 44000 | 101416 |
| Bhutan | 4424 | 30443 | 2228 | 4300 |
| Singapore | - | - | 1021 | 2055 |
| Kenya | 118381 | 310938 | 18 | 120 |
| Unspecified | 219 | 418 | 111 | 2460 |
| Other countries | 944631 | 2397764 | 5 | 22 |

CEMENT

**Table – 10 : Exports of Cement (Others)
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|---------------------------|---------------|------------------|---------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 647008 | 2306374 | 689099 | 2407832 |
| Sri Lanka | 267711 | 966483 | 372018 | 1275838 |
| Myanmar | 153727 | 520250 | 158345 | 545904 |
| Nepal | 164927 | 587677 | 134112 | 437438 |
| Bhutan | 6522 | 29463 | 20852 | 82175 |
| Belgium | 780 | 15367 | 460 | 9266 |
| Chinese Taipei/ Taiwan | 60 | 992 | 255 | 7774 |
| Germany | ++ | 7 | 302 | 5565 |
| Italy | 260 | 5060 | 300 | 5451 |
| Maldives | 318 | 1563 | 802 | 5274 |
| Iran | 300 | 16543 | 82 | 5005 |
| Other countries | 52403 | 162969 | 1571 | 28142 |

**Table – 11 : Imports of Cement :Total
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|---------------------------|---------------|------------------|----------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 778321 | 3628004 | 1087655 | 4895596 |
| Pakistan | 493288 | 1724820 | 805735 | 2799688 |
| Bangladesh | 177862 | 846215 | 210794 | 1020366 |
| China | 8100 | 332864 | 8113 | 341145 |
| UAE | 7822 | 60765 | 38934 | 209934 |
| Germany | 7590 | 114105 | 7365 | 128232 |
| Netherlands | 1884 | 108915 | 1882 | 104434 |
| Egypt | 8185 | 91075 | 11146 | 103662 |
| France | 1303 | 55010 | 1698 | 79595 |
| Chinese Taipei/ Taiwan | 127 | 40297 | 150 | 48176 |
| USA | 136 | 4642 | 226 | 47518 |
| Other countries | 72024 | 249296 | 1612 | 12846 |

**Table – 12 : Imports of Cement (Portland Grey)
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|---------------|------------------|---------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 542311 | 1929393 | 863902 | 3058554 |
| Pakistan | 475432 | 1606431 | 791032 | 2708407 |
| Bangladesh | 63464 | 309905 | 72533 | 349296 |
| Bhutan | 3393 | 12918 | 310 | 754 |
| UAE | 22 | 139 | 27 | 97 |
| Other countries | - | - | - | - |

**Table – 13 : Imports of Cement
(Portland White)
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|--------------|------------------|--------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 16598 | 134744 | 13187 | 111018 |
| Pakistan | 12846 | 99795 | 9485 | 75928 |
| UAE | 3752 | 34913 | 3696 | 34639 |
| Italy | - | - | 4 | 354 |
| China | ++ | 36 | ++ | 60 |
| Egypt | - | - | 2 | 37 |
| Other countries | - | - | - | - |

CEMENT

**Table – 14 : Imports of Cement Clinker
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|----------------------|--------------|------------------|--------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 80164 | 328848 | 48552 | 289399 |
| UAE | 168 | 1540 | 32550 | 161455 |
| Egypt | 8185 | 91075 | 11144 | 103625 |
| Pakistan | 3770 | 10540 | 4730 | 13545 |
| Bangladesh | - | - | 1 | 5764 |
| USA | - | - | 23 | 4382 |
| Malaysia | 5252 | 31129 | 104 | 628 |
| Other countries | 62789 | 194564 | - | - |

**Table – 15 : Imports of Cement (Others)
(By Countries)**

| Country | 2013-14 | | 2014-15 (P) | |
|---------------------------|---------------|------------------|---------------|------------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 139248 | 1235019 | 162014 | 1436624 |
| Bangladesh | 114398 | 536310 | 138260 | 665305 |
| China | 7648 | 329788 | 8113 | 341086 |
| Germany | 7590 | 114105 | 7365 | 128232 |
| Netherlands | 1884 | 108915 | 1882 | 104434 |
| France | 1303 | 55010 | 1698 | 79595 |
| Chinese Taipei/ Taiwan | 127 | 40297 | 150 | 48176 |
| USA | 136 | 4642 | 203 | 43136 |
| UAE | 3880 | 24174 | 2661 | 13744 |
| Bhutan | - | - | 1082 | 3889 |
| Korea, Rep. of | 1 | 91 | 20 | 2143 |
| Other countries | 2281 | 21687 | 580 | 6884 |

FUTURE OUTLOOK

The primacy of Cement Industry would continue as cement remains paramount for the development of infrastructure all over the world and no other material would possibly substitute it in the near future. Infrastructure and industrial activity, real estate business and investment in core sectors mainly drive the demand for cement. Some emerging areas for cement demand are concrete roads, concrete canal lining and rural construction (housing). Over 65% demand for cement arises from Construction Sector.

The country is self-sufficient in terms of cement production. Most of the cement plants in India are operated by state-of-the-art technology and with advanced production facilities. The liberalisation policies for Cement Industry enabled

achievement of strong growth in the Cement Sector. The Cement Industry has presently ushered in modifications and upgradation in technology, particularly in the energy conservation front.

The Working Group on Cement Industry constituted by the Planning Commission for the 12th Five-Year Plan period has projected a demand growth at the rate of 10.75% per annum during the plan period at an expected 9% GDP growth rate. The Working Group expects that the additional installed capacity requirement would be 139.7 million tonnes by 2017 and 1,035.3 million tonnes by 2027.

Based on the demand growth projection, the consumption of cement by the end of the 12th Five Year Plan would be between 366.9 million tonnes and 397.4 million tonnes with assumed growth rates of 9.75% to 10.75% during the Plan period.

The installed capacity and production are estimated at 479.3 million tonnes and 407.4 million tonnes, respectively, (with a capacity utilisation of 85%) in 2016-17. Reviewing the technology status of the Indian Cement Industry, the Working Group has observed that although the modern cement plants have incorporated the latest technology, yet there is scope for further improvement in the areas of in-pit crushing and conveying, pipe conveyors, co-processing of waste derived/hazardous combustible wastes as fuel, neurofuzzy expert system, cogeneration of power, multi chamber/dome silos, bulk transport of cement, pelletising and shrink wrapping for packing & despatch.

The Working Group has observed that the Cement Industry's average energy consumption is estimated to be about 725 kcal/kg clinker thermal energy and 80 kWh/t cement electrical energy. It is expected that the Industry's average thermal energy consumption by the end of 12th Plan (Year 2016-17) will come down to about 710 kcal/kg clinker and the average electrical energy consumption will come down to 78 kWh/t cement with continued efforts by all concerned. The Working Group has taken into consideration the following alternate energy sources/fuels having good potential in the present context of Indian economics to either partially or fully substitute coal in cement manufacture in the coming years, namely, pet coke, lignite, natural gas, and bio-mass wastes including fruit of *Jatropha* *Carcus*, *Pongamia* and *Algae*. The Report further states that the Cement Industry in India has the potential to utilise the entire hazardous waste generated in the country with indigenous technological intervention.