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CEMENT

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GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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5 Cement

The Cement Industry in India is among the eight 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 after China in the world.Cement is the basic building material and is used extensively in 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 augurs 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 500 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, Housing for all, concrete Highways, Dedicated fright corridors, clean India Mission, ultra Mega power Projects, waterways, development of smart cities are expected to provide a major boost to the sector.

The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce, Govt. of India publishes data on production and capacity of cement in its Annual Report. As per Annual Report 2021-22, the total installed capacity of cement plants has been placed at 537 million tonnes among which there are about 240 large cement plant and more than 350 mini cement plants. During 2021-22, the production of cement was 360.19 million tonnes which showed an increase of 20% as compared to the year 2020-21 which reported a production of 299.94 million tonnes.

Three cement plants, having a total capacity of 1.338 mtpa white cement. Most of these capacities are modern and based on the energy-efficient dry processing technology.

There are as many as 175 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 units, spread over eight States/Union Territories. Out of these, only three plants, namely, Bokajan, Rajban and Tandur units are operational, 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, Shillong, Meghalaya.The company-wise annual installed capacity and production of cement plants during the year 2020-21 in the country is furnished in Table-1. Capacity and production of Cement plants are reflected in Table-2.

Table 1: Company-wise Installed Capacities and Production of Cement Plants, 2020-21

(In million tonnes)

Company/ Plant Name	Capacity	Production
ACC Ltd		
Bargarh, Bargarh, Odisha	2.50	-
Chaibasa, Singhbhum, Jharkhand	1.20	0.95
Chanda, Chandrapur, Maharashtra	3.80	2.63
Damodar (G), Purulia, West Bengal	0.70	0.62
Gagal-I & II, Bilaspur, Himachal Pradesh	4.40	2.94
Jamul, Durg, Chhattisgarh	3.00	2.27
Kudithini (G), Ballari, Karnataka	3.00	1.10
Kymore, Katni, Madhya Pradesh	2.72	-
Lakheri, Bundi, Rajasthan	1.50	2.02
Madukkarai, Coimbatore, Tamil Nadu	1.00	-
Sindri (G), Dhanbad, Jharkhand	3.00	0.53
Thondebhavi (G), Chikballapur, Karnataka	1.66	-
Tikaria (G), Sultanpur, Uttar Pradesh	2.64	2.67
Vizag (G), Vizag, Andhra Pradesh	0.30	-
Wadi & Wadi New, Wadi, Karnataka	5.45	2.73
ACL, Jaypee Group		
Durga Cement Works, Guntur, Andhra Pradesh	2.31	0.40
Vishaka Cement Works, Vizag, Andhra Pradesh	0.54	-
Ambuja Cement Ltd		
Ambujanagar I & II, Kodinar, Junagadh, Gujarat	5.70	4.06
Bathinda (G), Bhatinda, Punjab	1.20	-
Bhatapara, Raipur, Chhattisgarh	3.50	2.61
Dadri- (G), G B Nagar, Uttar Pradesh	1.50	1.90
Darlaghat, Solan, Solan, Himachal Pradesh	6.8	5.45
Farakka (G), Murshidabad, West Bengal	1.25	1.18
Magdalla (G), Surat, Gujarat	1.56	-
Maratha Cement, Chandrapur, Maharashtra	4.75	3.55
Nalagargh, Solan (G), Solan, Himachal Pradesh	1.50	0.98
Rabriyawas, Pali, Rajasthan	3.60	2.27
Roorkee (G), Haridwar, Uttarakhand	1.00	0.84
Ropar (G), Ropar, Punjab	3.00	2.63
Sankrail (G), Howrah, West Bengal	2.40	-
Suli,Rauri Himachal Pradesh	1.60	0.94
Amrit Cement		
Jaintia Hills, Jaintia Hills, Meghalaya	3.00	-
Andhra Cement Ltd		
Durga Cement Works, Guntur, Andhra Pradesh	2.31	0.37
Anjani Portland Cements		
Anjani Portland Cements, Nalgonda, Telangana	1.92	0.83
Asian CCPL		
Asian Cement, Solan, Himachal Pradesh	1.30	-
Asian FCPL		
Asian Cement, Patiala, Punjab	1.50	-
Bagalkot Cement & Ind Ltd		
Bagalkot Cement, Bijapur, Karnataka	0.60	-
Barak Valley Cement		
Karimganj, Karimganj, Assam	0.33	-

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
Bharathi Cement		
Kadapa, Kadapa, Andhra Pradesh	5.00	3.68
Bhavya Cement		
Bhavya Cement, Guntur, Andhra Pradesh	1.40	0.80
Bheema Cement (Earlier Coromandel Cements)		
Bheema Cement, Nalgonda, Telangana	0.90	-
Binani Cement		
Sikar (G), Sikar, Rajasthan	1.40	2.70
Birla Corp. Ltd		
Chanderia, Chittorgarh, Rajasthan	4.00	3.57
Durgapur and Durga Hitech Cement (G), Bardhaman, West Bengal	2.30	-
Raebareli (G), Raebareli, Uttar Pradesh	1.30	-
Satna, Satna, Madhya Pradesh	2.20	-
Birla Corp. Ltd (erstwhile Reliance Cement)		
Butibori (G), Nagpur, Maharashtra	0.50	-
Kundanganj (G), Raebareli, Uttar Pradesh	2.00	-
Maihar, Satna, Madhya Pradesh	3.00	2.74
BMM Cement, Anantpur, Andhra Pradesh	0.95	0.86
BJCL, Jaypee Group		
Bhilai Jaypee (G), Durg, Chhattisgarh	2.20	-
Bhilai Jaypee, Satna, Madhya Pradesh	1.30	0.80
Burnpur Cement		
Asansol, Burdwan, West Bengal	0.30	-
Patratu, Ramgargh, Jharkhand	0.30	-
C.C.I. Ltd		
Bokajan, Karbi, Assam	0.20	0.10
Rajban, Sirmaur, Himachal Pradesh	0.25	-
Tandur, Rangareddy, Telangana	1.00	-
Century Cement, Raipur, Chhattisgarh	2.40	1.74
Maihar Cement I & II, Satna, Madhya Pradesh	4.20	3.21
Manikgarh Cement I & II, Chandrapur, Maharashtra	6.00	3.81
Sonar Bangla (G), Murshidabad, West Bengal	1.50	-
Chettinad Cement		
Ariyalur, Ariyalur, Tamil Nadu	5.50	2.50
Dachepalli works, Guntur, Andhra Pradesh	3.50	0.61
Kallur, Gulbarga, Karnataka	2.50	1.25
Karikkali, Dindigul, Tamil Nadu	4.50	2.24
Puliyur, Karur, Tamil Nadu	1.70	1.01
Dalmia Cement (Bharat) Ltd		
Adhunik Cement Ltd, Jaintia Hills, Meghalaya	1.50	0.90
Ariyalur, Ariyalur, Tamil Nadu	3.40	2.10
Belagavi, Belagavi, Karnataka	4.00	1.60
Kadapa, Kadapa, Andhra Pradesh	4.00	1.84
Dalmiapuram, Trichy, Tamil Nadu	3.40	2.10
Calcom Cement India Ltd, Noagoan, Assam	1.72	-

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
Dalmia Cement (Bharat) Ltd (erstwhile Jaypee Group)		
Bokaro (G), Bokaro, Jharkhand	2.10	-
DCM Shriram Cement		
Shriram Cement Works, Kota, Rajasthan	0.40	-
Deccan Cement		
Nalgonda, Nalgonda, Telangana	1.80	1.77
Dhandapani Cement Ltd		
Manachanallur, Tamil Nadu	0.02	0.01
ECO Cement		
Durgawati, Bhabhua, Bihar	1.00	-
Emami Ltd		
Panagarh, Burdwan, West Bengal	2.00	-
Risda, Baloda Bazaar, Chhattisgarh	3.00	2.45
Green Valley Industries		
Green Valley Industries, Jowai, Meghalaya	1.00	-
Grey gold Cement		
Grey gold Cement, Nalgonda, Telangana	0.05	0.04
Gujarat Siddhi Cement Ltd Junagad, Gujarat	2.01	1.15
Heidelberg Cement		
Ammasandra, Tumkur, Karnataka	0.51	-
Imlai (G), Damoh, Madhya Pradesh	3.00	2.80
Jhansi (G), Jhansi, Uttar Pradesh	2.70	-
Hi-Bond Cement		
Hi-Bond cement, Gondal, Gujarat	1.20	-
Hills Cement Company		
Hills Cement, Jaintia Hills, Meghalaya	1.00	-
Hemadri Cement Ltd Andhra Pradesh		
Hemadri Cement,Vedadri, Krishna, Andhra Pradesh	0.49	0.23
India Cements Ltd		
Chilamkur Works, Kadapa, Andhra Pradesh	1.00	0.30
Dalavoi, Ariyalur, Tamil Nadu	2.16	1.30
Malkapur, Rangareddy, Telangana	2.90	1.07
Parli (G), Beed, Maharashtra	1.10	-
Sankaridurg, Salem, Tamil Nadu	1.39	0.65
Sankarnagar, Tirunelveli, Tamil Nadu	2.05	1.00
Banswara Works, Banswara, Rajasthan	1.80	1.25
Vallur (G), Chennai, Tamil Nadu	1.10	-
Vishnupuram, Nalgonda, Telangana	3.50	1.19
Yerraguntla, Kadapa, Andhra Pradesh	1.00	0.40
Andaman Nicobar Islands	1.65	0.81

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
J&K Cement Ltd		
Khrew, Pulwama, J & K	0.40	-
Samba, Jammu, J & K	0.10	-
J.K. Cement Ltd		
Gotan White, Nagaur, Rajasthan	0.61	0.58
Jharli(G), Jhajjar, Haryana	1.50	-
Mangrol, Chittorgarh, Rajasthan	2.50	1.71
Muddapur, Bagalkot, Karnataka	3.00	2.02
Nimbahera, Chittorgarh, Rajasthan	3.30	2.12
JAL, Jaypee Group		
Chunar (G), Mirzapur, Uttar Pradesh	2.50	-
Churk, Mirzapur, Uttar Pradesh	1.50	-
Rewa, Rewa, Madhya Pradesh	2.50	-
Sadva Khurd (Blending), Allahabad, Uttar Pradesh	0.60	-
JCCL, Jaypee Group		
Shahabad Cement, Shahabad, Karnataka	1.20	-
JK Lakshmi Cement Ltd		
Durg, Durg, Chhattisgarh	2.40	2.10
Jhajjar (G), Jhajjar, Haryana	1.30	-
Kalol (G), Gandhinagar, Gujarat	1.00	-
Sirohi, Sirohi, Rajasthan	8.70	3.40
Surat, Surat, Gujarat	1.35	-
JPVL, Jaypee Group		
Jayprakash Power Ventures (G), Singrauli, Madhya Pradesh	2.00	-
JSPL		
Raigarh, Raigarh, Chhattisgarh	0.85	-
JSW (erstwhile Heidelberg Cement (I) Ltd)		
Dolvi (G), Raigad, Maharashtra	1.00	-
JSW Cement		
Nandyal, Kurnool, Andhra Pradesh	4.80	1.44
Salboni, P Medinipur, West Bengal	2.40	-
Vijayanagar, Bellary, Karnataka	3.20	-
JUD Cements		
Jaintia Hills, Jaintia Hills, Meghalaya	0.50	-
Kalburgi Cement		
Gulbarga, Gulbarga, Karnataka	3.60	2.07
(formerly Virat Sagar Cement Pvt Ltd)		

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
Kakatiya Cement & Sugar Ind. Ltd Telangana		
Kakatiya Cement & Sugar Ind. Ltd Telangana	0.30	0.26
Kalyanpur Cement		
Kalyanpur Cement, Rohtas, Bihar	1.00	-
Kanodia Cement		
Kanodia Cement, Bulandsahar, Uttar Pradesh	0.33	-
Kanodia Infra, Bhabhua, Bihar	1.20	-
KCP Ltd		
Unit II, Jaggayyapeta, Krishna Andhra Pradesh	3.52	2.11
Guntur, Andhra Pradesh	0.82	0.45
Keerthi Industries (Formerly Suvarna Cement)		
Keerthi Industries, Nalgonda, Telangana	0.59	0.51
Kesoram Industries		
Kesoram Cement, Karimnagar, Telangana	1.50	1.09
Vasvadatta Cement, Kalaburagi, Karnataka	8.65	4.23
Khyber Industries (P) Ltd		
Khyber Cement, Srinagar, J & K	0.33	-
KJS Cement		
KJS Cement, Satna, Madhya Pradesh	2.20	1.75
Nuvoco Vistas Corp Ltd., Lafarge Cement		
Arasmeta, Janjgir, Chhattisgarh	1.80	-
Chittorgarh, Chittorgarh, Rajasthan	2.60	2.08
Jojobera (G), Singhbhum, Jharkhand	4.60	-
Mejia (G), Bankura, West Bengal	1.65	1.54
Sonadih, Raipur, Chhattisgarh	1.00	0.54
Mawmluh Cherra Cements Ltd		
Mawmluh Cherra Cements Ltd, Garo (east), Meghalaya	0.18	0.01
Maa Chandi Cement		
Bamunara, Burdwan, West Bengal	0.33	-
Malabar Cements		
Cherthala (G), Alappuzha, Kerala	0.20	-
Walayar, Palakkad, Kerala	0.66	0.40
Mancherial Cement		
Mancherial Cement, Adilabad, Telangana	0.33	-
Jalgaon (G), Jalgaon,Maharashtra	2.00	-
Mangalam Cement Ltd		
Aligarh(G), Aligarh, Uttar Pradesh	0.75	-
Mangalam Cement I & II, Kota, Rajasthan	3.25	2.83

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
Megha Technical & Engineers Pvt. Ltd		
MTEPL-Lumshong, Jaintia Hills, Meghalaya	0.70	-
Meghalaya Cements Ltd		
Jaintia Hills, Jaintia Hills, Meghalaya	0.86	0.57
Mehta Group		
Gujarat Sidhee Cement, Junagadh, Gujarat	1.20	1.10
Saurashtra Cement, Porbandar, Gujarat	3.06	1.30
Murli Industries		
Murli Cement, Chandrapur, Maharashtra	3.00	-
My Home Industries Ltd		
Mellacheruvu, Nalgonda, Telangana	3.20	2.04
Mulakalapalli (G), Vizag, Andhra Pradesh	2.00	-
Ottapidaram,Thoothukudi, Tamil Nadu	1.50	-
NCL Industries		
Kondapalli (G), Krishna, Andhra Pradesh	0.99	-
Simhapuri, Nalgonda, Telangana	2.00	1.40
Nirma Ltd		
Nirma Cement, Pali, Rajasthan	2.28	1.62
OCL India Ltd		
Bengal Works, Midnapore, West Bengal	1.35	-
Kapilas (G), Cuttack, Odisha	1.35	-
Rajgangpur, Sundargarh, Odisha	4.00	-
Orient Cement		
Chittapur, Kalaburagi, Karnataka	3.00	1.99
Devapur, Adilabad, Telangana	5.00	2.40
Jalgaon (G), Jalgaon, Maharashtra	2.00	-
Panyam Cement		
Panyam Cement, Kurnool, Andhra Pradesh	1.00	-
Parasakti Cement		
Parasakti Cement, Guntur, Andhra Pradesh	1.26	0.80
Penna Cement Industries Ltd		
Boyareddypalli, Anantapur, Andhra Pradesh	2.00	-
Ganeshpahad, Nalgonda, Telangana	1.20	1.60
Talaricheruvu, Anantapur, Andhra Pradesh	2.20	0.94
Tandur, Rangareddy, Telangana	2.00	-
Prism Cement Ltd		
Prism Cement-I & II, Satna, Madhya Pradesh	6.60	-
Prism Johnson Ltd		
Karnool, Andhra Pradesh	4.80	-
Purbanchal Cement		
Sonapur, Kamrup, Assam	0.36	-

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
Rain Cements Ltd		
Kurnool Cem. Plant, Kurnool, Andhra Pradesh	2.77	1.62
Ramapuram Cem. Plant, Nalgonda, Telangana	1.50	0.75
Ramco Cements Ltd		
Alathiyur Works I & II, Perambalur, Tamil Nadu	3.05	1.33
Ariyalur, Perambalur, Tamil Nadu	3.50	2.60
Changelpet (G), Kancheepuram, Tamil Nadu	0.50	-
Jayantipuram, Krishna, Andhra Pradesh	3.85	1.47
Kolaghat (G), P Medinipur, West Bengal	0.95	-
Mathodu, Chitradurga, Karnataka	0.29	-
Ramasamyraja Nagar, Virudhnagar, Tamil Nadu	2.00	1.67
Salem (G), Salem, Tamil Nadu	1.60	-
Vizag (G), Vizag, Andhra Pradesh	0.95	-
RCCPL Pvt.Ltd,Maihar,Satana	3.60	2.76
RNB Cement		
East Khasi Hills, East Khasi, Meghalaya	0.40	-
Sagar Cement Ltd		
BMM Cement, Anantapur, Andhra Pradesh	1.00	0.90
Sagar Cements		
Bayyavaram, Vizag, Andhra Pradesh	0.20	-
Mattampally, Nalgonda, Telangana	3.30	1.40
Pedaveedu, Nalgonda, Telangana	0.35	-
Sanghi Industries Ltd		
Sanghi Cement, Kachchh, Gujarat	4.10	2.00
Saurarashtra Cement		
Porbandar, Gujarat	3.00	1.39
Shree Cements		
Baloda Bazar, Raipur, Chhattisgarh	3.00	1.99
Bangur Cement (G), Aurangabad, Bihar	3.60	2.00
Bangur Cement, Suratgarh, Rajasthan	3.60	2.14
Beawar I & II, Ajmer,Rajasthan Unit-III Andheri Deori	3.60	1.10
Bulandsahar (G), Sikandrabad, Uttar Pradesh	2.00	2.12
Jaipur (G), Jaipur, Rajasthan	1.50	0.55
Khushkhera (G), Alwar, Rajasthan	3.50	2.50
Karnataka Cement Project, Sedam	3.00	1.50
Karnataka Cement Project, Gulbarga, Karnataka	3.00	1.53
Shree Cements		
New Bihar Cement Plant, Aurangabad, Bihar	2.00	1.56
Ras, Pali, Rajasthan	3.00	2.80
Roorkee (G), Haridwar, Uttrakhand	1.80	-
Ras New Cement Unit, Ras Rajasthan	4.00	2.79
Shree Jharkhand, Saraikela, Jharkhand	2.27	0.57

(contd)

(Table-1 contd) (In million tonnes)

Company/ Plant Name	Capacity	Production
Suratgarh (G), Sriganganagar, Rajasthan	1.80	0.42
Shree Cements (erstwhile Jaypee Group)		
Panipat (G), Panipat, Haryana	1.50	1.14
Shree Digvijay Cement Co.		
Shree Digvijay-Sikka, Sikka, Gujarat	1.20	1.02
Shristi Cement		
Mangalpur, Burdwan, West Bengal	0.36	-
Sparta Cements & Infra Ltd		
Sparta Cements, Bhuj, Gujarat	1.00	-
Sri Chakra Cements		
Annamarajupet Grinding Unit (G), Vizianagaram, Andhra Pradesh	0.26	-
Narasimhapuri Cement Unit, Guntur, Andhra Pradesh	0.31	-
Sri JayaJothi Cements Pvt. Ltd		
Sri JayaJothi Cement Plant, Kurnool, Andhra Pradesh	3.20	1.31
Sri Lalita		
Matampally, Nalgonda, Telangana	1.00	-
Star Cement Ltd		
CMCL-Lumshong, Jaintia Hills, Meghalaya	1.00	0.80
CMCL-Sonapur (G), Guwahati, Assam	2.00	-
Swasata Cements Ltd		
Swasata Cements, Purulia, West Bengal	1.50	-
Tamil Nadu Cement		
Alangulam, Virudhunagar, Tamil Nadu	0.29	-
Ariyalur, Ariyalur, Tamil Nadu	0.50	-
Tata Chemicals Limited		
Tata Chemicals Cement Division, Mithapur, Gujarat	0.50	-
Tamil Nadu Newsprint & Papers Limited		
Tamil Nadu Newsprint & Papers Limited	0.33	0.25
The K.C.P. Ltd		
Macherla, Guntur, Andhra Pradesh	0.82	0.30
Muktyala, Krishna, Andhra Pradesh	3.52	1.70
Topcem		
Gauripur, Kamrup, Assam	0.66	-
Udaipur Cement		
Udaipur Cement, Udaipur, Rajasthan	1.60	1.15
UltraTech Cement Ltd		
Aditya, Chittorgarh, Rajasthan	8.00	4.17
Aligarh(G), Aligarh, Uttar Pradesh	1.30	-
Anantapur, Andhra Pradesh Cement Works	9.00	3.70
Arakkonam (G), Vellore, Tamil Nadu	1.10	-
Awarpur, Chandrapur, Maharashtra	6.00	2.34
Bhatinda (G), Bhatinda, Punjab	1.75	-
Dadri (G), G B Nagar, Uttar Pradesh	1.30	-
Dankuni, Hooghly, West Bengal	1.60	-

(contd)

(Table-1 concld) (In million tonnes)

Company/ Plant Name	Capacity	Production
Dhar, Madhya Pradesh (Nagda)	3.50	2.15
Ginigera (G), Koppal, Karnataka	1.30	-
Gujarat Cement Works, Amreli, Gujarat	6.40	4.80
Hirmi, Raipur, Chhattisgarh	1.90	2.36
Hotgi, Solapur, Maharashtra	4.00	2.40
Jafrabad, Amreli, Gujarat	1.45	1.25
Jhajjar (G), Jhajjar, Haryana	1.60	-
Jharsuguda (G), Jharsuguda, Odisha	2.60	-
Kotputli, Jaipur, Rajasthan	4.00	2.37
Magdalla (G), Surat, Gujarat	0.75	-
Nagpur, Nagpur, Maharashtra	2.00	-
Panipat(G), Panipat, Haryana	1.30	-
Nathdwara Cement Ltd.,(earlier Binani Cement Sirohi)	4.85	2.69
Patliputra, Patna, Bihar	1.90	-
Rajashree, Kalaburagi, Karnataka	6.10	4.10
Ratnagiri (G), Ratnagiri, Maharashtra	0.48	-
Rawan, Raipur, Chhattisgarh	2.50	2.05
Reddipalayam, Ariyalur, Tamil Nadu	1.40	1.22
Sirohi, Sirohi, Rajasthan	4.85	-
Sewagram, Kachchh, Gujarat	2.40	2.30
Vikram, Neemuch, Madhya Pradesh	3.60	2.10
Wanakbori (G), Kheda, Gujarat	2.40	-
WBCW (G), Burdwan, West Bengal	1.40	-
Bara Allahabad, Uttar Pradesh	4.00	-
Birla White, Katni, Madhya Pradesh	0.40	0.37
Birla White, Jodhpur, Rajasthan	0.68	0.56
UltraTech Cement Ltd (erstwhile Jaypee Group)		
Ayodhya (G), Ambedkar Nagar, Uttar Pradesh	1.00	-
Baga, Solan, Himachal Pradesh	2.54	1.17
Bagheri (G & B), Solan, Himachal Pradesh	2.00	-
Balaji Cement, Krishna, Andhra Pradesh	5.00	2.90
Bela, Rewa, Madhya Pradesh	2.60	-
Dalla, Sonebhadra, Uttar Pradesh	0.50	0.44
Roorkee (G), Haridwar, Uttarakhand	1.10	-
Sidhi, Sidhi, Madhya Pradesh	3.50	1.59
Sikandrabad, Bulandsahar, Uttar Pradesh	1.00	-
Vadraj Cement		
Mora, Surat, Gujarat	6.00	-
Vijay Cements		
Vijay Cements, Trichy, Tamil Nadu	0.10	0.27
Vinay Cement		
Vinay Cement, Dima Hasao, Umrangshu, Assam	1.80	1.00
Wonder Cement		
Wonder Cement, Chittorgarh, Rajasthan	12.00	6.26
Zuari Cement Ltd		
Chennai (G), Chennai, Tamil Nadu	0.90	-
Sitapuram, Nalgonda, Telangana	1.40	0.94
Solapur, Solapur, Maharashtra	1.20	-
Yeraguntla, Kadapa, Andhra Pradesh	3.80	2.30

** Survey of Cement Industry and Directory and Annual Return in Form 'M' (Erstwhile Form 'O').*

Table –2: Capacity and Production in Cement Industry, 2020-21 to 2021-22

Year	Annual Capacity (In million tonnes)	Production (In million tonnes)
2020-21	537	299.94
2021-22	537	360.19

Source: *DIPP, Annual Reports*

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 February 2003 issued under the BIS Act ensures quality of cement produced and sold in the market.

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 India Ltd and the Railways.

Operating Cost

The cement capacity in the country is mostly concentrated near the main raw material source, i.e., limestone. According to some estimates, around 1.5 tonnes of limestone and 180–250 kg of coal is required to produce a tonne of cement. Cement manufacturing also consume minerals, such as, gypsum, quartz, bauxite, coal, kaolin, and iron ore too in varying amounts. 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.

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.

Coal Distribution

Coal, being a low value, bulk product, 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 137.19 million tonnes cement in 2021-22, an increase from 120.40 million tonnes of cement transported in 2020-21, 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 were 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. The research outcomes so far have established that low-grade /dolomitic limestone up to 15–20% can be used in the manufacture of cement conforming to 43 grade OPC. Fly ash up to 45% can be used in high volume fly ash cement, thereby, enhancing the fly ash utilisation. The research outcome pursued under Swatchchta Action Plan established that poor quality fly ash can be used up to 40% by activating it through mechanical and chemical routes resulting in additional fly ash utilisation of about 15 million tonnes annually over and above the current quantum of fly ash utlisation limit of 35%. These efforts have certainly impacted the country in a big way by saving it from severe environmental consequences. 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. 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. Leading companies operating in the RMC market of India include UltraTech Cement Ltd, ACC Ltd, Nuvoco Vistas Corp. Ltd, The India Cement Ltd, Godrej Construction. The Ramco Cement Ltd, etc. Indian RMC market is expected to grow at 9% during 2021–2026.

POLICY

The Export & Import Policy 2015-20, incorporated in the FTP for cement is free. The import of cement viz. 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.

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 2022 was estimated at 4,100 million tonnes which is constant as compared to preceding year. China (2,100 million tonnes) was the largest producer of cement in the world, contributing about 51% to the world output, followed by India (370 million tonnes) 9%, Vietnam (120 million tonnes) and USA (95 million tonnes) 2%, each (Table-3).

Table – 3: World Production of Cement (By Principal Countries)

(In 000 tonnes)

Country	2021	2022
World: Total (rounded)	**4,400,000**	**4,100,000**
China	2,400,000	2,100,000
India*	350,000	370,000
Vietnam	110,000	120,000
United States (includes Puerto Rico)	93,000	95,000
Turkey	82,000	85,000
Brazil	66,000	65,000
Indonesia	65,000	64,000
Iran	62,000	62,000
Russia	61,000	62,000
Saudi Arabia	54,000	54,000
Egypt	50,000	51,000
Japan	50,000	50,000
Korea, Rep. of	50,000	50,000
Mexico	52,000	50,000
Other countries	850,000	850,000

Source: *USGS, Mineral Commodity Summaries, 2023*
** India's production of cement in 2019-20; 2020-21 and 2021-22 was 334.37 million tonnes, 299.94 million tonnes and 360.19 million tonnes, respectively.*

FOREIGN TRADE

Exports

Export of cement (total) decreased by 32% to 1.90 million tonnes in 2021-22 from 2.80 million tonnes in 2020-21. In 2021-22, exports of portland grey cement at 0.99 million tonnes and cement clinker at 0.73 million tonnes. Exports of portland white cement and other cements were 18,285 tonnes and 1,52,375 tonnes, respectively. Exports of cement total in 2021-22 were mainly to Sri Lanka (84%), Nepal (6%), Bangladesh (5%), Maldives (2%) and Mauritius (1%) (Tables - 4 to 8).

Table – 4: Exports of Cement : Total (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**2806874**	**8761533**	**1901076**	**6187851**
Sri Lanka	1635909	4602601	1606030	4900914
Nepal	770363	2745464	120476	520795
Bangladesh	151656	376077	97609	250566
Maldives	65156	293991	37976	178735
UAE	4480	107238	2522	67695
Mauritius	30631	138768	11448	65412
Bhutan	27752	134224	6626	43964
Seychelles	3549	13420	10111	40052
Mozambique	93	1371	4625	31059
USA	245	12473	257	15764
Other countries	117040	335906	3396	72895

Figures rounded off

Table – 5: Exports of Cement (Portland Grey) (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**1528080**	**4528743**	**995557**	**3314929**
Sri Lanka	1422910	4040146	932183	3013319
Maldives	57071	252502	34939	157031
Seychelles	3549	13405	10110	40027
Mauritius	27447	120805	7463	36598
Mozambique	-	-	4554	29844
Nepal	7419	44910	3859	21947
Bhutan	6661	41852	2280	14412
China	192	1730	168	1704
Japan	++	19	1	46
Switzerland	-	-	++	1
Other countries	2831	13374	++	++

Figures rounded off

Table – 6: Exports of Cement (Portland White) (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**18384**	**179863**	**18285**	**177863**
Nepal	14085	136320	16030	152705
Qatar	1974	12603	1375	9677
Maldives	50	1989	239	4998
Malawi	159	2107	162	2189
Nigeria	1598	19358	138	2032
Bhutan	88	1146	69	1321
Mozambique	92	1256	70	1166
Tanzania Rep, of	-	-	56	903
Saudi Arabia	10	789	17	778
Medagascar	56	739	56	560
Other countries	272	3556	73	1334

Figures rounded off

Table – 7: Exports of Cement Clinker (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**1094051**	**3410629**	**734859**	**1972316**
Sri Lanka	69920	179052	535912	1394878
Nepal	747356	2549445	99199	317394
Bangladesh	151405	374645	97250	246644
Bhutan	20838	89545	2495	13249
Tanzania Rep, of	-	-	2	148
Germany	1	13	1	3
Cote D'Ivoire	104530	217903	-	-
Qatar	1	24	-	-
Seychelles	++	2	-	-

Figures rounded off

Table – 8: Exports of Cement (Others)
(By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**166359**	**642298**	**152375**	**722743**
Sri Lanka	143079	383403	137935	492717
UAE	4480	107205	2522	67689
Mauritius	3130	17273	3985	28812
Nepal	1503	14789	1388	28749
Maldives	8035	39500	2798	16706
USA	245	12473	255	15727
Bhutan	165	1681	1782	14982
Saudi Arabia	245	13986	250	14838
South Africa	76	4605	356	14824
Malaysia	448	9873	400	9094

Figures rounded off

Imports

Imports cement increased marginally in 2021-22 by 14% to 2.02 million tonnes from 2.35 million tonnes in 2020-21. Imports of portland grey cement were 0.34 million tonnes. Similarly, imports of cement clinker were 1.21 million tonnes, other cements 0.29 million tonnes and portland white cement about 0.18 million tonnes. The main suppliers in 2021-22 were Oman (33%), UAE (30%), Iran (14%), Bhutan (11%) and Bangladesh (10%) (Tables- 9 to 13).

Table – 9: Imports of Cement:Total
(By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**2350442**	**9302473**	**2028180**	**9220479**
UAE	1023987	4282567	619528	3263557
Oman	444963	1082915	680146	2097490
Bangladesh	209448	1176076	207052	1192902
Bhutan	255234	1171694	227220	1058241
Iran	404141	1013290	282007	879480
China	4639	256239	4089	259775
Netherlands	2833	149272	3693	223253
Taiwan	63	25800	220	88775
Crotia	945	34979	1491	60522
Singapore	549	24687	1270	26542
Other countries	3640	84954	1464	69942

Figures rounded off

Table – 10: Imports of Cement (Portland Grey) (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**393659**	**1851543**	**345549**	**1635014**
Bhutan	116445	544386	126541	610254
UAE	184517	824420	127425	588937
Oman	40399	176919	73045	316728
Bangladesh	50622	298557	18532	117931
Spain	++	17	6	952
USA	-	-	++	204
Malaysia	-	-	++	8
Iran	1676	7161	-	-
Singapore	++	75	-	-
Japan	++	8	-	-
Other Countries	++	++	-	-

Figures rounded off

Table – 11: Imports of Cement (Portland White) (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**174241**	**1321486**	**187661**	**1473250**
UAE	168352	1283571	187208	1468406
Egypt	420	3658	447	4152
USA	54	467	6	692
Iran	4539	29280	-	-
Oman	794	3921	-	-
Bhutan	81	346	-	-
Spain	1	239	-	-
Malaysia	++	4	-	-
Italy	++	++	-	-

Figures rounded off

Table – 12: Imports of Cement Clinker (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**1491411**	**4061781**	**1211789**	**3928839**
Oman	403770	902075	607101	1780761
UAE	628895	1896954	289495	1100896
Iran	397926	976849	282007	879480
Bhutan	58873	244012	31442	122280
China	498	18267	543	24339
Singapore	360	15567	1200	21008
France	-	-	-	53
USA	19	237	1	22
Ukraine	550	4002	-	-
Malaysia	520	3813	-	-
Other countries	++	5	-	-

Figures founded off

Table – 13: Imports of Cement (Others) (By Countries)

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**291131**	**2067663**	**283181**	**2183376**
Bangladesh	158826	877519	188520	1074971
Bhutan	79835	382950	69237	325707
China	4141	237972	3546	235436
Netherlands	2833	149272	3693	223253
UAE	42223	277622	15400	105318
Taiwan	63	25800	220	88775
Croatia	945	34979	1491	60522
France	571	24880	517	24563
Korea, Rep. of	322	20013	320	24075
UK	134	12217	104	12003
Other countries	1238	24439	133	8753

Figures founded off

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 upgrade and industrial activity, rural housing and urbanisation 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 housing and real estate, 25% from public infrastructure.

The Government of India has been laying a massive emphasis on infrastructure development, with 100 smart cities, modernisation of 500 cities. Cement concreting of national highways, provision of sanitation facilities, etc. These development projects that are in the pipeline would be the main drivers of growth of Indian Cement Industry.

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.

As per IBEF India, cement production is expected to rise between 5 and 7% backed by demands from roads, urban infrastructure and commercial real estate segments. Cement consumption is expected to grow at 6.83%. The demand for cement is expected to touch 550–600 million tonnes per annum by 2025.

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.