INDIAN CEMENT INDUSTRY

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Indian Cement Industry

- Second largest cement market
  Demand: ~300 mio t

- Past Cement demand growth
  of 5-7% p.a.

- Effective Cement Capacity of 400 mio tpa

- Overcapacity in short-medium term

- PCC
  India: ~225 kgs
  World: ~585 kgs

- Economic growth:
  GDP growth of ~7% in 2016-17

- 75-85 players,
  ~230 cement plants
  (150 IU’s + 80 GU’s)

- 17-18% players account for 70% capacity

- Budgetary allocation of Rs. 3.96 lakh crores
  (USD 58 bn) for Infrastructure development in 2017-18

- Rs 23,000 crore
  (USD 3.3 bn) allocated in 2017-18 under “Housing for All by 2022”

- 38% urbanization by 2025 up from 31% in 2011
  (~170 m people more in urban India)

- Rs. 50,000 cr (USD 7.3 bn) earmarked for 100 smart cities over 5 yrs (FY16-FY20)
Cement Market Scenario

Traditionally past consumption grew at a CAGR of 7-8% pa.

Around 70 mio tpa capacity expected to be added over next 5 years.

Imports: 1-2 mio t
Exports: 5-6 mio t

Product Mix

- PSC, 7-8%
- OPC, 25-30%
- PPC, 60-65%

Customer Segmentation

- Infrastructure, 15-20%
- Housing, 60-65%
- Comm & Inst., 15-20%

Diminishing Demand-Supply gap as consumption is envisaged to grow at ~7% pa against expected 3-4% pa growth in capacity additions.
Demand & Supply at Regional Level

### FY 2016

<table>
<thead>
<tr>
<th>Demand/Supply</th>
<th>North</th>
<th>Central</th>
<th>West</th>
<th>South</th>
<th>East</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand (FY16)</td>
<td>52</td>
<td>48</td>
<td>55</td>
<td>76</td>
<td>58</td>
<td>289</td>
</tr>
<tr>
<td>Supply (FY16)</td>
<td>82</td>
<td>52</td>
<td>52</td>
<td>143</td>
<td>66</td>
<td>395</td>
</tr>
<tr>
<td>Surplus/ (Deficit) (FY16)</td>
<td>30</td>
<td>4</td>
<td>(3)</td>
<td>67</td>
<td>8</td>
<td>106</td>
</tr>
</tbody>
</table>

### FY 2022

<table>
<thead>
<tr>
<th>Demand/Supply</th>
<th>North</th>
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<th>South</th>
<th>East</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand (FY22)</td>
<td>79</td>
<td>75</td>
<td>86</td>
<td>116</td>
<td>92</td>
<td>447</td>
</tr>
<tr>
<td>Supply (FY22)</td>
<td>91</td>
<td>58</td>
<td>68</td>
<td>171</td>
<td>87</td>
<td>475</td>
</tr>
<tr>
<td>Surplus/ (Deficit) (FY22)</td>
<td>12</td>
<td>(17)</td>
<td>(17)</td>
<td>55</td>
<td>(4)</td>
<td>28</td>
</tr>
</tbody>
</table>
The Herfindahl Index is seen to be falling till FY16 and then shows a sudden jump in FY17 due to four major acquisitions and a JV, indicating consolidation in the industry. Thereafter, it falls again to FY13 levels.
Prices in past have grown at a rate of 5-7% pa. Future prices likely to increase by around 6% pa under Most Likely Scenario.

After Demand – Supply gap, rising input materials’ prices is seen to have the most significant impact on Cement Price.
Limestone Reserves

Total Deposits
50 bio t

Individual Deposit > 50 mio t
CaO > 42%
45 bio t

Exploitable Reserves
22 bio t

In Forest Land
4 bio t

Statutorily Blocked
19 bio t

Case - I: Current product mix with current limestone reserve
Case - II: Current product mix with increased exploitable limestone
Case - III: Case II with 100% blended cement beyond 2023
Case - IV: Case III with lower demand growth
## Blending Material

### Fly Ash

- Approx. 60-65% cement sold in India is fly ash based i.e. PPC
- Total installed capacity of coal based thermal power plants in India is around 133,000 MW (i.e. ~170 mio tpa of fly ash generation)
- 40 mio tpa of fly ash is currently utilized by the cement industry
- An additional 80 mio tpa is expected to be available by 2020 against an incremental requirement of 20 mio tpa

### Slag

- Approx. 7-8% cement sold in India is PSC (Portland Slag Cement)
- Current slag generation is more than 18 mio tpa
- 10 mio tpa of slag is utilized by the cement industry
- Incremental requirement of slag in Indian cement industry is 6 mio tpa by 2020
Power

Waste heat recovery for power generation

Greater use of wind/tidal/solar power

Mega thermal plants as IPP/captive use

Contracting alliances with IPPs

Approximately 2,000 MW of CPP Capacity would need to be created
Fuel

Coal

✓ Most of the coal deposits in India are in Eastern belt.
✓ Coal rich states are Madhya Pradesh, Chhattisgarh, Jharkhand, Orissa, North East, Maharashtra, Andhra Pradesh.
✓ Indian Cement industry uses >25% imported coal
✓ Usage of imported coal expected to increase, especially in coastal regions.

Alternate Fuel

✓ Present usage in India is ~3,00,000 tpa.
✓ Present thermal substitution is approx. 1%.

Barriers:

- **Technical**: Non-uniform quality and lack of collection & pre-processing facilities.
- **Financial**: High investment cost and high transportation & collection cost.
- **Policy & Regulatory**: No clear policy and lengthy approval process for trial runs.
Unit operating costs (PPC) to increase by about ~35% over the period.
Investment

- **Total Investment**: USD 11.9 bn
  - **New Capacity**: USD 7.2 bn (FY 17: 3,089 mio., FY 18: 3,472 mio., FY 19: 2,672 mio., FY 20: 1,666 mio., FY 21: 968 mio.)
  - **De-bottlenecking**: USD 1.2 bn (M&A: USD 3.5 bn)

Unit Investment Costs could increase by 8-10% over the period.
The Challenges of Tomorrow

- **Dwindling Natural Resources**: Limited limestone, fossil fuel and water resources. Life of cement grade limestone reserves is estimated to be around 40 years more.

- **Increasing Costs**: Energy efficiencies, equipment availability and input material costs have been the major focus areas for cost reduction in the past. However, recently freight (both inwards and outwards) has also become a focus point.

  The potential also exists for reducing costs in non-equipment related domains, e.g. material inventories, consumable consumption rates, financial expenses, etc.

- **Increase in Gestation Period**: The gestation period in the future is likely to be in the range of 5-7 years, due to prolonged pre-project activities like Mines Auction, Land acquisition and statutory clearances.

  Industry players could attempt to bring down actual construction time by employing more steel in civil engineering structures.

- **Low Capacity Utilization**: Present industry capacity utilization is in mid 70’s; this is likely to start improving and touch 90% in FY22.

- **Increasing Revenue**: Till capacity utilizations remain sub-optimal, need to find ways to enhance revenue – increase ex-gate price/ optimise distribution, etc.
Opportunities

- **Favorable Demand-Supply balance by FY 23**: Demand is likely to overtake supply in next 6-7 years.

  Typically, greenfield plant commissioning can take 5-6 years from planning stage; now is the time to plan to take advantage of forthcoming deficit situation. Brownfield expansion takes +2 years.

- **Limestone paucity**: Limestone resources are limited and valuable.

- **Growing demand**: India has immense growth potential. The future of cement market is likely to remain buoyant in medium to long term.

- **Price**: Prices have held up, despite lower capacity utilisation. This is likely to continue even in the future.

**Currently, Indian Cement Industry is bottoming out and is likely to start improving in next 1–2 years.**
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Thank you