An overview of global cement sector trends

Insights from the *Global Cement Report 10th Edition*

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Thomas Armstrong
*International Cement Review*
Agenda

• Review of global cement markets in 2012
  – Consumption, production, trade, capacity

• Industry performance, capacity, prices, emerging majors

• Global growth scenarios and outlook

• Focus on key markets & trends in 2013

• Conclusions
Global cement demand (1)

- Global volumes have doubled over the last decade, from 1.8bnt in 2002 to 3.7bnt in 2012, reflecting a CAGR of 7.4%.
- Compares to a CAGR of 4.3% in the previous decade (1992-2002).

Global cement demand, 2002-2013E
Regional economic growth trends

GDP Growth, World Regions, 2002-2017E

- World
- Advanced economies
- European Union
- Emerging market and developing economies
- Latin America and the Caribbean
- China
Global cement demand is dominated by China (39% in 2002 vs 58% in 2012)

- Steady growth in emerging markets
- Mature markets entered into a period of contraction from 2008
Regional consumption

Global cement industry trends

2002

- Western Europe: 47%
- Central & Eastern Europe: 5%
- North America: 8%
- South & Central America: 4%
- Africa: 5%
- Indian Sub-Continent: 7%
- Middle East: 5%
- South Asia: 5%
- North Asia: 5%
- Australasia: 5%

2012

- Western Europe: 61%
- Central & Eastern Europe: 3%
- North America: 3%
- South & Central America: 4%
- Africa: 4%
- Indian Sub-Continent: 5%
- Middle East: 5%
- South Asia: 5%
- North Asia: 5%
- Australasia: 5%
## Top 15 cement consumers

### Top Consumers, 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank by volume</th>
<th>2002</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>India</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>USA</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Brazil</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Russia</td>
<td>9</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Iran</td>
<td>14</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Turkey</td>
<td>15</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>12</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>19</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Egypt</td>
<td>13</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Vietnam</td>
<td>18</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>South Korea</td>
<td>5</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Mexico</td>
<td>10</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Germany</td>
<td>11</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>
Per capita consumption

Per capita consumption, selected countries (kg)
Per capita consumption - LatAm

Per capita consumption, LatAm v World (kg)

- Ecuador: 388 kg
- Brazil: 330 kg
- Chile: 294 kg
- Peru: 286 kg
- Argentina: 281 kg
- Venezuela: 265 kg
- Costa Rica: 255 kg
- Bolivia: 252 kg
- El Salvador: 231 kg
- Uruguay: 227 kg
- Paraguay: 222 kg
- Colombia: 217 kg

Global cement industry trends
Top 15 cement producers

Top producers, 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Production (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2220</td>
</tr>
<tr>
<td>India</td>
<td>247</td>
</tr>
<tr>
<td>USA</td>
<td>74</td>
</tr>
<tr>
<td>Iran</td>
<td>73</td>
</tr>
<tr>
<td>Turkey</td>
<td>69</td>
</tr>
<tr>
<td>Brazil</td>
<td>68</td>
</tr>
<tr>
<td>Russia</td>
<td>60</td>
</tr>
<tr>
<td>Japan</td>
<td>59</td>
</tr>
<tr>
<td>Egypt</td>
<td>55</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>53</td>
</tr>
<tr>
<td>Indonesia</td>
<td>53</td>
</tr>
<tr>
<td>South Korea</td>
<td>49</td>
</tr>
<tr>
<td>Vietnam</td>
<td>47</td>
</tr>
<tr>
<td>Mexico</td>
<td>37</td>
</tr>
<tr>
<td>Pakistan</td>
<td>32</td>
</tr>
</tbody>
</table>
Top 10 importers & exporters, 2012

- Total of 167Mt traded in 2012 (4% of prod.)
- Top 20 exporters account for 85% of exports
Contrasted capacity, 1990-2012

- 140Mt of new kiln capacity contracted at peak in 2006 (ex-China)
- 46Mt contracted in 2011, with no new projects in North America and Western Europe, falling to 40Mt in 2012
Top 6 company performance

- Global majors hit by collapse of demand in key markets from 2008
- High debt levels and financial inflexibility resulted in a severe slowdown in capex, M&A, opening up opportunities to the emerging majors
- Companies now readjusting to new economic realities (ie Cemex/Holcim deal)
- Votorantim overtakes Buzzi Unicem as sixth largest international company following Cimpor deal
# Global growth scenarios

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013E</th>
<th>2014F</th>
<th>2015F</th>
<th>2016F</th>
<th>2017F</th>
<th>5-Yr CARG 07to12</th>
<th>12to17</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>3,585</td>
<td>3,730</td>
<td>3,967</td>
<td>4,157</td>
<td>4,310</td>
<td>4,464</td>
<td>4,599</td>
<td>6.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>% Change</td>
<td>8.3%</td>
<td>4.0%</td>
<td>6.3%</td>
<td>4.8%</td>
<td>3.7%</td>
<td>3.6%</td>
<td>3.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>2,050</td>
<td>2,160</td>
<td>2,333</td>
<td>2,438</td>
<td>2,511</td>
<td>2,586</td>
<td>2,638</td>
<td>10.4%</td>
<td>4.1%</td>
</tr>
<tr>
<td>% Change</td>
<td>10.8%</td>
<td>5.4%</td>
<td>8.0%</td>
<td>4.5%</td>
<td>3.0%</td>
<td>3.0%</td>
<td>2.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Ex-China</td>
<td>1,535</td>
<td>1,570</td>
<td>1,634</td>
<td>1,719</td>
<td>1,799</td>
<td>1,878</td>
<td>1,961</td>
<td>1.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>% Change</td>
<td>5.0%</td>
<td>2.3%</td>
<td>4.1%</td>
<td>5.2%</td>
<td>4.6%</td>
<td>4.4%</td>
<td>4.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mature Markets</td>
<td>422.35</td>
<td>406.63</td>
<td>407.87</td>
<td>417.02</td>
<td>430.43</td>
<td>442.21</td>
<td>454.81</td>
<td>-5.5%</td>
<td>2.3%</td>
</tr>
<tr>
<td>% Change</td>
<td>2.5%</td>
<td>-3.7%</td>
<td>0.3%</td>
<td>2.2%</td>
<td>3.2%</td>
<td>2.7%</td>
<td>2.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EM ex-China</td>
<td>1,113</td>
<td>1,164</td>
<td>1,226</td>
<td>1,302</td>
<td>1,368</td>
<td>1,436</td>
<td>1,506</td>
<td>5.2%</td>
<td>5.3%</td>
</tr>
<tr>
<td>% Change</td>
<td>6.0%</td>
<td>4.6%</td>
<td>5.4%</td>
<td>6.2%</td>
<td>5.1%</td>
<td>4.9%</td>
<td>4.9%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Per capita consumption

Cement consumption vs GDP, per capita, 2011

Global cement industry trends
United States in recovery

Cement consumption, USA, 2002-2017F

Monthly cement consumption, USA, 2011-13 (Mt)

Annual value of construction put in place (YoY % change)

New residential construction, Jul '12 to Jul '13

Global cement industry trends
Brazil – growth weakens

**Annual cement consumption, Brazil, 2001-2015F (Mt)**

- Per capita consumption reached 330kg
- Huge infrastructure and housing requirements
- 82Mt domestic capacity
- 33Mt new capacity planned between 2012-16
- Capacity to reach 110Mt in 2015 – risk of surplus

**Monthly cement consumption, Brazil, 2012-13YTD (Mt)**

Global cement industry trends
Spain – hope in sight?

Spanish consumption, 2002-15F

Apparent consumption, Spain, Monthly, 2010-13 YTD

Evolution of construction in Spain, YoY % change, 2005-2011

Cement price index, Spain, 1996-2011

Global cement industry trends
Russia – growth moderating

- Recovery from 2009 crisis complete, with double digit growth between 2010-12. Economy slowing and demand softening.
- Per capita consumption below average at 402kg
- 80% capacity utilises wet process technology
- 23Mt of new capacity planned by 2015
- Potential capacity shortages by 2020
India – below expectations

- GDP growth slips below 5% (lowest rate in decade), as demand growth weakens
- Capacity doubled since 2007 to 350Mta (2012)
- Improving capacity utilization (73%), but additional 130Mt capacity planned over current 5-yr plan (2013-17)
- Land acquisition, environmental permitting, slower demand will slow aggressive expansion plans
- Per capita consumption very low at only 191kg vs 513kg global average
- AFR usage only 1%

Projections for the Indian cement industry, FY12/13-2016/17

<table>
<thead>
<tr>
<th>Financial year</th>
<th>Cement capacity (Mta)</th>
<th>Capacity change (%)</th>
<th>Consumption (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>349.6</td>
<td></td>
<td>255.4</td>
</tr>
<tr>
<td>2013-14</td>
<td>374.9</td>
<td>7%</td>
<td>292.6</td>
</tr>
<tr>
<td>2014-15</td>
<td>405.1</td>
<td>8%</td>
<td>324.7</td>
</tr>
<tr>
<td>2015-16</td>
<td>440.6</td>
<td>9%</td>
<td>358.9</td>
</tr>
<tr>
<td>2016-17</td>
<td>479.3</td>
<td>9%</td>
<td>397.4</td>
</tr>
</tbody>
</table>

Source: Planning Commission, India
China - resetting to sustainable course?

Growth tripled from 720Mt in 2002 to 2.16bnt in 2012 (CAGR11.6%)
58% of global consumption
Per capita consumption reached 1518kg in 2012 (x3 global av.)
Future growth reset to more sustainable course, with CAGR 4% over 2012-17F
Demand is expected to peak this decade, after which per capita levels will gradually revert toward average global levels
Overcapacity, intense competition, low utilization rates impacting on profitability
2013 YTD – a mixed performance

Cement market indicators, selected countries, 1H13
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Thomas Armstrong
Managing Editor
International Cement Review
Email: t.armstrong@cemnet.com
Website: www.CemNet.com

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