Cement and clinker trade flows in Asia

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Cement Distribution Consultants

19 June 2012
General overview

Region includes Indian Ocean and Pacific Ocean islands (excl. Hawaii)

Global cement and clinker trade 163 mt
of which seaborne 130 mt

Regional cement and clinker trade 68 mt
(42% of global trade)

of which seaborne 62 mt
(48% of global seaborne trade)
Issues with export and import statistics

- Often no separation between clinker and cement export figures (and for cement exports no separation between bulk, bags and big bags)
- What is cement? (see next slide) How are PFA, GBFS, etc. covered in statistics?
- Frequently clinker imports are not mentioned in national statistics
- Imports of independents are often not reported in national statistics (as reported by national cement associations)

Total global import figures are about 20% lower than global export figures!!

Cement and clinker trade flows in Asia
Cement and clinker trade flows in Asia

- **Clinker production**
  - Limestone
  - Gypsum
  - Etc.

- **Binder production**
  - Clinker replacement materials
  - GBFS (slag)
  - PFA (fly ash) etc.

- **Concrete production**
  - Exports
  - Grinding
  - Blending
How to get “proper” trade flow statistics

- Use export figures as a basis
- Use import figures from reliable sources first
- Trace trading networks of cement multinationals
- Find import sources
  a) coastal grinding plants
  b) coastal cement terminals
- Combine various information from publications, news, private sources, etc.
- Make “educated guesses” on remaining undefined exports

All statistics provided are Cement Distribution Consultants 2011 estimates

Cement and clinker trade flows in Asia
### Regional overview

**North East Asia**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total exports in area</strong></td>
<td>38.7 mt</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
</tr>
<tr>
<td>• Imported within the area</td>
<td>9.0 mt</td>
</tr>
<tr>
<td>• Exported to Asia – Australia region</td>
<td>17.8 mt</td>
</tr>
<tr>
<td>• Global exports</td>
<td>11.9 mt</td>
</tr>
</tbody>
</table>

**Domestic distribution**

<table>
<thead>
<tr>
<th>Country</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>22 mt</td>
</tr>
<tr>
<td>South Korea</td>
<td>9.4 mt</td>
</tr>
<tr>
<td>China</td>
<td>?? mt</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2.3 mt</td>
</tr>
<tr>
<td>Taiwan</td>
<td>5.2 mt</td>
</tr>
</tbody>
</table>

| Total     | 38.9 mt + China |

**Total waterborne cement and clinker movements in area** 77.6 mt + China

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**Cement and clinker trade flows in Asia**

All figures 2011
Country overview

**Japan**

- Production: 50 mt
- Exports: 9,85 mt
- Domestic distribution: 22 mt by water
- Total: 31,85 mt (64% of production)

18 Coastal cement plants
Approx. 220 coastal terminals
74 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
Country overview

South Korea

- Production: 50 mt
- Exports by water: 4.3 mt
- Domestic distribution by water: 9.4 mt
- Total waterborne: 13.7 mt (27% of production)

6 Coastal cement plants
Approx. 18 coastal terminals
34 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
Country overview

**China**
- Production: 2040 mt
- Exports by water: 16,6 mt
- Domestic distribution: ????
  - (10% means 200 mt!!)
  - by water
- ??? Coastal cement plants
- ??? Coastal terminals
- 10 Self discharging vessels

**Cement and clinker trade flows in Asia**

Most exports from Yellow River and Pearl River basins
Country overview

Taiwan

Production 18,5 mt
Exports by water 8 mt
Domestic distribution by water 5,2 mt
Total waterborne 13,2 mt (71% of production)
5 Coastal cement plants
Approx. 16 coastal terminals
15 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
# Regional overview

## South East Asia

<table>
<thead>
<tr>
<th>Total exports in area</th>
<th>18,1 mt</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total imports</strong></td>
<td></td>
</tr>
<tr>
<td>• From within the area</td>
<td>4,3 mt</td>
</tr>
<tr>
<td>• From within the Asia – Australia region</td>
<td>7,1 mt</td>
</tr>
<tr>
<td><strong>Total exports outside the area</strong></td>
<td></td>
</tr>
<tr>
<td>• To the Asia – Australia region</td>
<td>10,6 mt</td>
</tr>
<tr>
<td>• Global exports</td>
<td>3,2 mt</td>
</tr>
</tbody>
</table>

## Domestic distribution by water

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>2,2 mt</td>
</tr>
<tr>
<td>Vietnam</td>
<td>9,2 mt</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0,6 mt</td>
</tr>
<tr>
<td>Thailand</td>
<td>0 mt</td>
</tr>
<tr>
<td>Indonesia</td>
<td>11 mt</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23 mt</strong></td>
</tr>
</tbody>
</table>

Cement and clinker trade flows in Asia

All figures 2011
Country overview

Phillippines

Production 16.6 mt
Exports by sea 0.3 mt
Domestic distribution by sea 2.2 mt
Total waterborne (15% of production) 2.5 mt

7 Coastal cement plants
Approx. 7 coastal terminals
4 Self discharging vessels

Area with most coastal cement plants

Cement and clinker trade flows in Asia
All figures 2011
Country overview

Vietnam

- Production: 57 mt
- Exports by water: 1.2 mt
- Domestic distribution by water: 9.2 mt
- Total waterborne (18% of production): 10.4 mt

- 12 Coastal cement plants
- Approx. 3 coastal terminals
- 7 Self discharging vessels

Area with most coastal cement plants

Clinker grinding plants and terminals

Cement and clinker trade flows in Asia

All figures 2011
Country overview

Malaysia

- Production: 18 mt
- Exports by water: 3.3 mt
- Domestic distribution by water: 1.1 mt
- Total waterborne: 4.4 mt (24% of production)

1 Coastal cement plant
Approx. 4 coastal terminals
11 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
Indonesia

Production 47 mt
Exports by water 1.3 mt
Domestic distribution 11 mt by water
Total waterborne 12.3 mt (27% of production)
7 Coastal cement plants
Approx. 34 coastal terminals
42 Self discharging vessels

Areas with coastal cement plants

Cement and clinker trade flows in Asia
Country overview

Thailand

Production 39 mt
Exports by water 11.8 mt
Domestic distribution by water 0 mt
Total waterborne 11.8 mt (30% of production)

0 Coastal cement plants
Approx. 0 coastal terminals
0 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011

All cement plants are located inland!!!
# Regional overview

## South Asia

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Total exports in area</td>
<td>2,75 mt</td>
</tr>
<tr>
<td>Total imports</td>
<td></td>
</tr>
<tr>
<td>• From within the area</td>
<td>1,85 mt</td>
</tr>
<tr>
<td>• From within the Asia – Australia region</td>
<td>18 mt</td>
</tr>
<tr>
<td>Total exports outside the area</td>
<td></td>
</tr>
<tr>
<td>• To the Asia – Australia region</td>
<td>0 mt</td>
</tr>
<tr>
<td>• Global exports</td>
<td>0,9 mt</td>
</tr>
<tr>
<td>Domestic distribution by water:</td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>10 mt</td>
</tr>
<tr>
<td>India</td>
<td>5 mt</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>0,5 mt</td>
</tr>
<tr>
<td>Total</td>
<td>15,5 mt</td>
</tr>
</tbody>
</table>

## Cement and clinker trade flows in Asia

All figures 2011
Country overview

Bangladesh

Production: 14,9 mt
Exports by water: 0 mt
Domestic distribution by water: 10 mt (67% of production)
Total waterborne: 10 mt

0 Coastal cement plants
Approx. 0 coastal terminals
0 Self discharging vessels

River located grinding plants

Cement and clinker trade flows in Asia

All figures 2011
Country overview

India

Production 237 mt
Exports by water 2,8 mt
Domestic distribution by water 5 mt
Total waterborne 7,8 mt (3% of production)

4 Coastal cement plants
Approx. 7 coastal terminals
14 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
Country overview

Sri Lanka

Production 1,9 mt
Exports by water 0 mt
Domestic distribution 0,5 mt by water
Total waterborne 0,5 mt (0% of production)
0 Coastal cement plants
Approx. 4 coastal terminals
6 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
Country overview

**Australia**
- Production: 10.5 mt
- Exports by water: 0.01 mt
- Domestic distribution by water: 5 mt
- Total waterborne: 5 mt (48% of production)
- 3 Coastal cement plants
- Approx. 5 coastal terminals
- 9 Self discharging vessels

Cement and clinker trade flows in Asia

All figures 2011
## Country overview

### New Zealand

- **Production**: 1,4 mt
- **Exports by water**: 0,02 mt
- **Domestic distribution by water**: 0,9 mt
- **Total waterborne (64% of production)**: 0,9 mt

- 2 Coastal cement plants
- Approx. 10 coastal terminals
- 2 Self discharging vessels

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### Cement and clinker trade flows in Asia

All figures 2011
## Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterborne cement and clinker exports from region</td>
<td>62 mt</td>
</tr>
<tr>
<td>Waterborne domestic distribution in region</td>
<td>83 mt (plus China)</td>
</tr>
<tr>
<td>Total waterborne transportation in the region</td>
<td>145 mt</td>
</tr>
<tr>
<td>Of which by bulk carrier</td>
<td>56 mt</td>
</tr>
<tr>
<td>Of which by self discharging ship</td>
<td>89 mt</td>
</tr>
</tbody>
</table>

228 Self discharging ships are active in the region. This is 72% of the global fleet of 317 vessels (> 2,000 DWT)
To be published December 2012

Global Cement Trade & Distribution Handbook

- Economical mechanisms of cement and clinker trade and distribution
- Overview of global and regional trade flows
- Overview of domestic distribution systems
- Directory of coastal cement plants, coastal grinding plants and coastal terminals
- Multinational trading networks
- Shipping overview

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THANK YOU

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