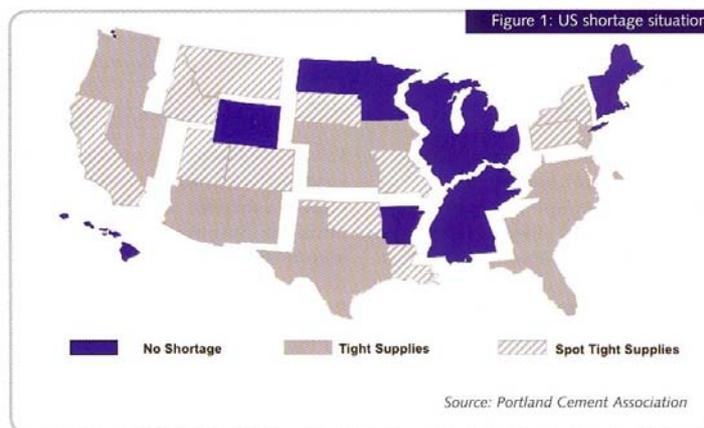


US import overview

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The US is world's largest importer of cement, growing from 24.17Mt in 2002 to 33.13Mt in 2005. Imports are forecast to grow to 35.44Mt in 2007 (see Table 1). Despite this strong increase there still is a cement shortage situation which is expected to continue in 2006 (Figure 2). This has resulted in a steep increase in cement prices which are expected to hold. Cement exporters have increased their FOB prices but shipping prices have eased somewhat so the overall situation for cement importers in the US at present is generally quite good.

Although some cement arrives in self-discharging ships from Central and South America (and with white cement even from Europe) the vast majority of cement imports arrive by bulk carriers of Handysize and Handymax size. These vessels require cement import terminals with large storage



capacities (>60,000t) and high capacity shipunloaders. The US has, by far, the largest concentration of these large import terminals and in this respect is a key market for equipment suppliers in this field.

The Northwest

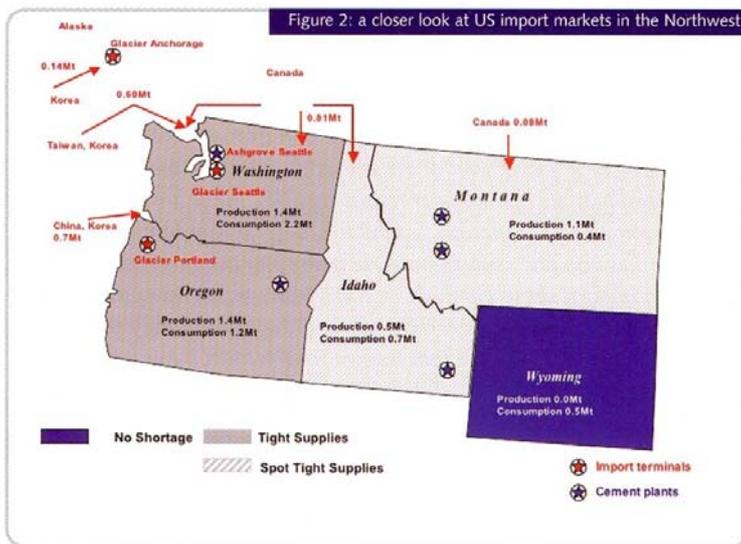
The cement market in the Northwest of the United States is relatively small. Cement consumption (2005) in the states of Washington, Oregon, Idaho, Montana and Wyoming totaled 5.5Mt. Production in these states totaled 4.4Mt. Compared to these figures the imports in these states are relatively high.

Approximately 0.9Mt is imported from Canada by rail and barge. About 0.6Mt arrives by vessel into Seattle from Taiwan and Korea. In Portland OR about 0.7Mt is received from China and Korea. Total imports in the Northwest are about 2.2Mt of which 1.3Mt arrive by sea. About 1.1Mt of cement goes from the Northwest to other states in the US most notably

Table 1: large increase in cement imports

	Imports	Import growth (%)	Import share (%)
2002	24,169	-	22.3
2003	23,241	-3.8	20.7
2004	27,305	17.5	22.8
2005	33,127	21.3	27.5
2006	34,409	3.9	27.6
2007	35,444	3.0	24.5
2008	32,221	-9.1	24.3

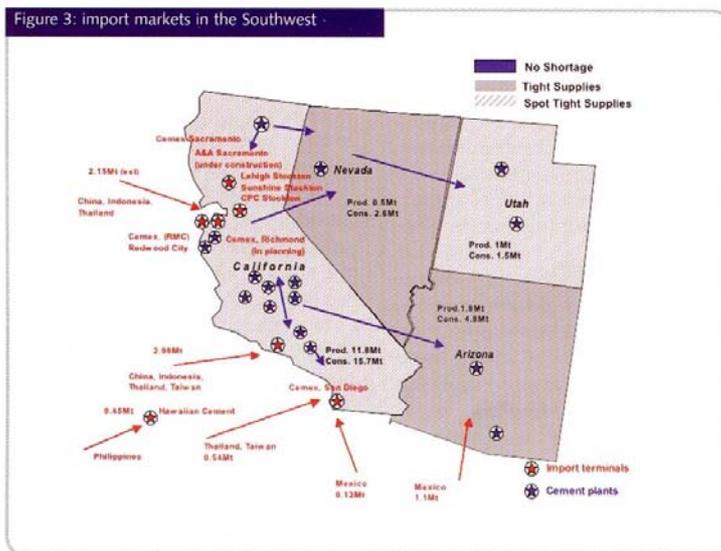
source: Portland Cement Association



California, Utah and Nevada. Glacier (owned by Taiheiyo) is the largest importer in the northwest with terminals in Seattle and Portland. The company also has a smaller terminal in Alaska which imported 0.14Mt from Korea. Ash Grove is also a key importer with a terminal in Seattle and a terminal under construction in Portland. See Figure 2 for a closer look at the Northwest.

The Southwest

The Southwest cement market is substantial. California, Nevada, Utah and Arizona together consume 24.5Mt cement of which California itself consumes 15.7Mt. Production in these states totals 15.1 Mt, leaving a deficit of 9.4Mt. About 1.2Mt of cement is railed in from Mexico. In California 5.7Mt was imported by sea. In San Diego the Cemex terminal received



0.54Mt from Thailand and Taiwan. The Port of Los Angeles and Long Beach received nearly 3Mt. Of this quantity a stunning 1.3Mt sourced from China and Thailand was handled by the Mitsubishi Terminal in Long Beach. CPC terminals, jointly owned by California Portland Cement (Taiheiyo) and Lehigh Southwest, received approximately 0.9Mt cement mainly from China and some from Indonesia. The Cemex terminal in Long Beach received about 0.8Mt from Indonesia and Taiwan.

A second large concentration of cement import terminals can be found in the San Francisco Bay area. In total 2.15Mt was imported in this region sourced from China, Indonesia and Thailand. There were four terminals importing this quantity in 2005. Cemex has a terminal in Redwood City as part of its acquisition of RMC. In Stockton there are three terminals. Lehigh Southwest has a large shore based facility as has California Portland Cement. Stockton also has a large floating terminal, the m/v Golden Arrow 1, operated by Sunshine Cement which is owned by CTI.

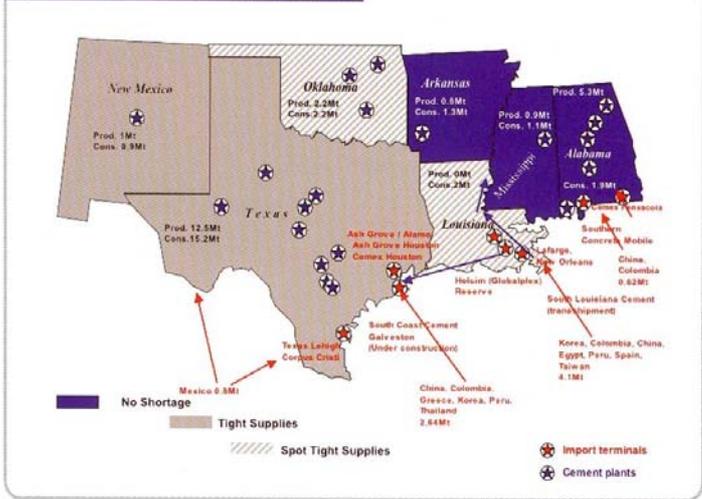
Cemex has another terminal in Richmond which has been used as a rail terminal in the past but is scheduled to be expanded to a large import facility.

North California is clearly set for import expansion with two new import facilities about to start construction in the Port of

Sacramento. The first is the new terminal for A&A Ready Mixed Concrete. The other is for Cemex which also acquired this as part of its RMC acquisition. Even with all these imports the Southwest region still needs an additional 2.5Mt from domestic sources outside the region. Part of this comes from the Northwest states and part from the Prairie states, which are already experiencing tight supplies. This means that in 2006, shortages will remain in the Southwest states.

In Hawaii a large cement terminal is owned and operated by Hawaiian Cement which imported 450,000t in 2005 from

Figure 4: import markets in the Gulf Region



the Philippines.

The Gulf Region

The Gulf Region is even larger than the Southwest region in respect to imports even though its cement consumption is about equal. The region consumed 24Mt in 2005 of which 15.2Mt was consumed in Texas alone. With a production of 22.7Mt and imports totalling 8.2Mt about 6.5Mt finds its way to other states: some of it to Arizona but most of it up the Mississippi-Missouri waterways system, going as far as Chicago. From the 8.2Mt of imports about 800,000t enters Texas by rail from Mexico. The Houston-Galveston area received over 2.6Mt from China, Colombia, Greece, Korea and Peru. Houston has two large terminals,

one belonging to Ash Grove and the other to Cemex. It also has several barge terminals which receive cement in barges which are unloaded in the Mississippi delta. One of these terminals, South Coast Cement is presently expanding into a large import facility which can receive ships directly. In Houston, also, the largest single import terminal is being constructed for Houston Cement, a joint venture between Ash Grove and Alamo. The Mississippi delta is the largest port of entry for imported cement. About 4.1Mt is unloaded from Korea, Colombia, China, Egypt, Peru, Spain, Taiwan.

Although a substantial amount is unloaded by Holcim at its Globalplex Reserve most of this cement is transshipped in barges. Apart from Holcim, the largest players are Lafarge which has a large barge terminal in New Orleans and the independent South Louisiana Cement. On the Mississippi-Missouri waterways system there are more than 50 barge terminals. Apart from imports these are supplied by several cement plants along these waterways and so me as well by imports from Canada via the Great Lakes. In Mobile, Alabama cement is imported by Southern Concrete. In nearby Pensacola, Florida Cemex has a terminal as a result of its joint venture with Ready Mix USA. These two terminals together received about 0.6Mt from China and Colombia. Apart from cement, Buzzi Unicem imports granulated blast furnace slag (GBFS) which it grinds at a plant in New Orleans for sale throughout the region.

Figure 5: import markets in the Southeast



The Southeast

Florida, Georgia and both Carolinas together consumed 22.1 Mt of cement in 2005 of which 12.3Mt was consumed by Florida. The region produced only 14.4Mt meaning substantial quantities from outside the region were required. About 0.8Mt were received from domestic sources from states outside the region by rail and truck.

Figure 6: import markets in the Northeast



The Northeast

The Northeast Region is somewhat smaller in size of imports than the Southeast region and also suffers from a slowdown in cement consumption, specifically in the New England area.

The states of Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, New York, Vermont, Rhode Island, Connecticut, New Hampshire and Maine together consumed about 15.3Mt in 2005. Cement production in the region totalled 12.1Mt. Imports in the region totalled 4.2Mt. About 1Mt was distributed to other states mainly from cement plants in

About 7.1 Mt was imported by sea. Tampa Bay received 3.3Mt where there are six terminals. Holcim, Cemex and Lehigh have terminals in the Port of Tampa that are supplied by self discharging ships. Florida Rock and Titan have larger terminals in Tampa with high capacity shipunloaders so that they can receive bulk carriers.

Bulk carriers are also received by Eastern Cement in Port Manatee in the south of Tampa Bay. Cement enters Tampa Bay from Brazil, China, Colombia, Denmark, Greece, Taiwan and Venezuela. The high concentration of terminals in Tampa Bay will be expanded as Aalborg Portland is to build a terminal for white cement in the Port of Tampa.

On the east coast of Florida 2.8Mt of cement was imported from China, Denmark, Mexico, Sweden, Turkey and Venezuela to six terminals. Two of these terminals, Lehigh in Jacksonville and Cemex in West Palm Beach, are supplied by self discharging ships. The four others, Lehigh and Rinker each with terminals in both Port Canaveral and Port Everglades (Fort Lauderdale), have large unloaders and can receive bulk carriers.

In South Carolina, Lafarge operates a very large terminal in Charleston importing almost 1 Mt from Greece and Colombia. Argos in Savannah received a modest 50,000t by selfunloading ship.

Apart from cement imports, Civil Marine and Titan are building grinding plants in Florida to grind imported GGBS.

Pennsylvania into Ohio. Cement imports enter the Northeast from several directions.

The largest concentration of cement terminals can be found around New York City. In Brooklyn, Lehigh (Norval) and Nycemco (Quadrozzi) have floating terminals. Located on the other side of the Hudson River in the port of Newark is the shore-based Essex Cement (Titan) terminal. Up the Hudson River, Lehigh has another import facility at its decommissioned cement plant in Cementon but it is unclear if this is still in use. In total 1 Mt entered the New York customs region from Greece, Norway and Venezuela.

North of New York, Lehigh has another terminal in Providence, RI and there are several coastal terminals served by self discharging ships and barges. About 1 Mt enters New England, largely along the coast from Canada but also from China and Venezuela.

Also along the coast of Virginia and Delaware there are a number of terminals that receive cement from selfunloading vessels most notably in the Newport and Baltimore areas. The largest terminal in the area that receives bulk carriers with cement from Thailand is Riverside Construction Materials (Silvi) on the Delaware River just north of Philadelphia. In total 1.15Mt of cement from Thailand, Bulgaria and France entered the region south of New York. New York states also received 1.07Mt from Canada across the Great Lakes with typical Great Lake type cement carriers. The Great Lakes are of vital importance for Canadian exports to the US. In total 3Mt of

cement is shipped across the Great Lakes to 23 terminals.

Upgrades and new terminal construction

The record high cement imports in the US have provided a boost for equipment suppliers.

In respect to terminal upgrades, three new shipunloaders were supplied in 2005.

Riverside Construction Materials (Silvi) replaced its grab and hopper system with a 600tph pneumatic unloader from Van Aalst Bulk Handling mounted on a floating dock. Lehigh purchased a dock mobile mechanical unloader from IBAU for its Port Canaveral terminal which received only self discharging ships. In Tampa, Florida Rock Industries unloaded new unloading arms for its 800tph pneumatic unloading systems from Van Aalst Bulk Handling. This equipment supplier also supplied a 250tph dock mobile unloader to the Mitsubishi terminal in Long Beach. This terminal, which probably had the largest annual throughput, has added the unit to its existing 800tph rail mounted unloader.

Apart from adding shipunloaders to their facilities many terminals also upgraded storage reclaim equipment and truck loading stations.

In total seven new terminals are under construction or in an advanced stage of preparation. In Sacramento California A&A Ready Mixed Concrete has received all the necessary permits and port lease for a new 50,000t flat storage terminal with two dock mobile pneumatic unloaders. Construction was scheduled to start in February 2006. Also in the port of Sacramento, Cemex (RMC) is in the advanced stages of planning a new terminal which will replace its two rail distribution terminals by a single large dome

type terminal. Cemex has also announced the construction of a large dome terminal in nearby Richmond. It has an existing flat storage facility at the Levin Richmond Bulk Handling facility which is currently used as a rail distribution terminal.

In the northeast, Ash Grove is to convert an alumina terminal into a cement terminal in Portland, OR. In the Gulf Coast the Houston area is very active. In the port of Houston, Houston Cement (a joint venture between Ash Grove and Alamo) is building the largest cement terminal in the United States.

This facility will have four concrete silos each of 25,000t, totaling 100,000t of storage capacity. BMH Marine is supplying a 1500tph rail mounted mechanical shipunloader, the largest of its kind for cement. In nearby Galveston South Coast Cement has started construction of a new 800,000t flat storage terminal.

In Tampa, FL Aalborg Portland Cement of Denmark has started construction of a new terminal for white cement. The key equipment supplier is Van Aalst Bulk Handling which is supplying a 600tph pneumatic shipunloader and a fluidizing floor reclaims system for the dome storage of the terminal to be supplied by Dome Technology Inc. These seven new terminals will probably not be the only additions. On both the east and west coast as well as in the Gulf new projects are planned by established players as well as newcomers. The next two years will see a lot of new activity.

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