

4. Regional trade and distribution networks

SAMPLE

4.1 Europe

4.1.1 Introduction

Europe, after Asia, is the second-largest continent in respect to seaborne cement and clinker movements. A total of 43.8Mt of cement was traded or distributed by water in 2011:

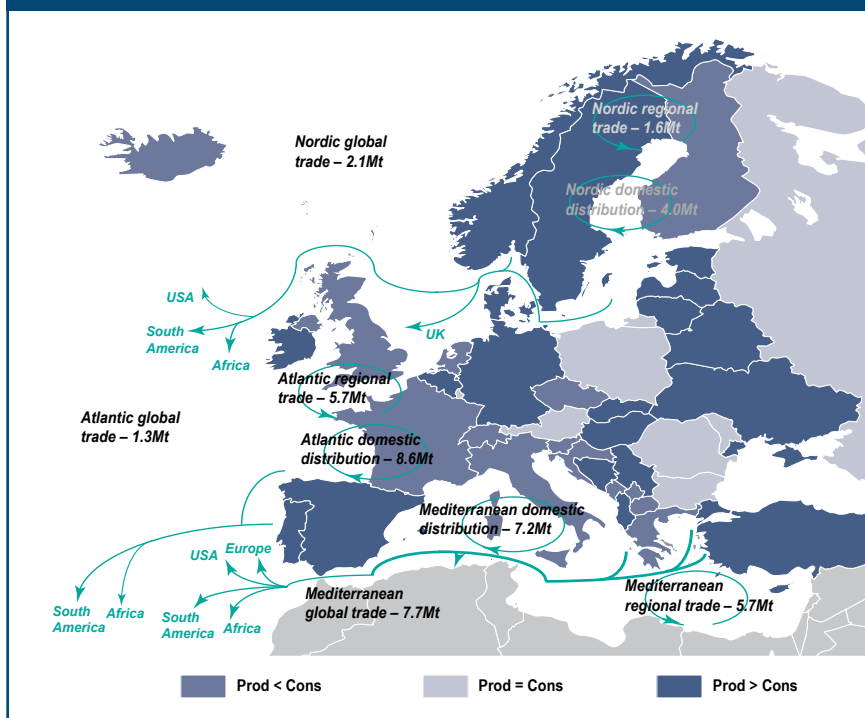
1. of which seaborne cement and clinker exports reached 24.1Mt, of which 13.1Mt was imported within Europe and 11.0Mt imported by other continents.
2. of which all waterborne cement and clinker domestic distribution amounted to 17.9Mt.

Of a total cement production in Europe of about 355Mt (2011), 12.3 per cent of output leaves cement plants by water.

Table 4.1. – Cement and clinker facilities involved in waterborne transportation

Manufacturer (region)	Plants	Grinding facilities	Cement terminals
HeidelbergCement (Nordic)	5	0	51
HeidelbergCement (Atlantic)	3	6	3
HeidelbergCement (Mediterranean)	1	0	6
HeidelbergCement total	9	6	60
Cemex (Nordic)	2	1	12
Cemex (Atlantic)	2	1	8
Cemex (Mediterranean)	3	1	14
Cemex total	7	3	34
Holcim (Nordic)	0	0	1
Holcim (Atlantic)	2	4	9
Holcim (Mediterranean)	2	3	14
Holcim total	4	7	24
Lafarge (Atlantic)	3	2	5
Lafarge (Mediterranean)	7	3	13
Lafarge total	10	5	18
Cementir (Nordic)	1	0	12
Cementir (Mediterranean)	1	0	13
Cementir total	2	0	25
Italcementi (Atlantic)	1	1	3
Italcementi (Mediterranean)	4	4	8
Italcementi total	5	5	11
CRH (Nordic)	2	1	4
CRH (Atlantic)	2	2	6
CRH total	4	3	10
Cimpor (Atlantic)	1	2	6
Cimpor (Mediterranean)	0	2	1
Cimpor total	1	4	7
Cimsa (Atlantic)	0	0	1
Cimsa (Mediterranean)	2	0	7
Cimsa total	2	0	8
Valderrivas (Atlantic)	1	0	3
Valderrivas (Mediterranean)	3	1	1
Valderrivas total	4	1	4
Titan (Atlantic)	0	0	2
Titan (Mediterranean)	2	0	5
Titan total	2	0	7
Colacem (Mediterranean)	3	0	7
Tudela Veguin (Atlantic)	2	0	6
Buzzi Unicem (Mediterranean)	2	1	3
Oyak (Mediterranean)	2	1	3
Secil (Atlantic)	1	0	3
Lagan (Atlantic)	1	0	2
Nuh (Mediterranean)	1	0	1
Independents (Nordic)	0	0	5
Independents (Atlantic)	0	7	7
Independents (Mediterranean)	4	15	14
Independents total	4	22	26

Figure 4.1 – European seaborne trade and distribution overview



In the past some clinker shipments from Asia were imported into Europe by independent grinding plants, but this practice has almost completely stopped. Waterborne regional trade and distribution in Europe has declined in the past few years in line with overall declining cement consumption. The distribution network in the Nordic area with Turkish clinker, finding their way in a number of recently-realised terminal facilities, especially in Russia. Europe has remained a large export base to other continents from cement plants in Sweden, Norway, Denmark, Portugal, Spain, Greece and, the largest exporter of all, Turkey (see Figure 4.1).

A total of 372 European facilities are involved in waterborne trade and distribution. These consist of 66 cement plants, 58 grinding facilities and 248 cement terminals.

The vast majority of these are part of networks, having the same owner. Some 320 facilities (62 plants, 36 grinding facilities,

222 terminals) are part of a network. Table 4.1 gives an overview of these networks. The remaining 52 (four plants, 22 grinding facilities and 14 terminals) are independently owned. Shipments of cement and clinker in Europe are quite varied. Exports out of Europe to Africa, South America and the USA, totalling about 1.3Mt in 2011, are made by general handysize and handymax bulk carriers. Within Europe these vessels are hardly used. The Titan cement terminal in Hull, UK, the former Ciments de l'Atlantique terminal (now Holcim) in Montoir, France, the Cemex terminal in Le Havre, France, and the Avonmouth terminal of Hanson (HeidelbergCement) are the few facilities capable of receiving such big vessels and, apart from the Titan facility, they are currently little used. Within Europe the predominant trade flows are coastal with ship sizes ranging between 1000-10,000dwt. Bulk carrier ships are used for all clinker move-

ments and most (but not all) bulk cement supplies to independent cement terminals. Self-discharging cement carriers transport the vast majority of cement within the networks. From the total of 43.8Mt that left European cement plants in 2011 by water 11.4Mt was shipped by handysize and handymax bulk carriers. Coastal bulk carriers up to 10,000dwt delivered about 7.5Mt of bulk cement and clinker, and 24.9Mt bulk cement was sent by self-discharging cement carriers.

4.1.2 Nordic area

In respect to overall seaborne cement movements, the Nordic area, with 7.7Mt is the smallest of the three main trading areas in Europe (see Table 4.2). However, the region contains one of the most dense distribution networks in the world and is quite unique in other aspects as well.

The largest player in the area is HeidelbergCement. It has an incredible network of five waterside cement plants and 51 cement terminals (see Figure 4.2). When HeidelbergCement acquired Scancem it obtained the extensive domestic distribution networks of Norcem in Norway and Cementa in Sweden as well as the large cement plant in Silte and Brevik and the smaller ones in Degerhamn and Kjøpsvik. In this deal grinding plants in West Africa were also included and a large inland network, enabling substantial exports. HeidelbergCement has built on this network by adding the Kunda cement plant in Estonia, the Randers cement terminal in Denmark and new cement terminals in Kaliningrad, Murmansk and Archangelsk (all Russia), Klaipėda (Lithuania) and a rail terminal in Riga (Latvia). In 2012, the company sold almost 6Mt of cement and clinker from the Nordic area plants. When deducting about 0.5Mt that was produced by the landlocked Skövde plant in Sweden, this means that 5.5Mt was supplied from the five waterside plants.

Apart from the HeidelbergCement network there are three other marine networks in the Nordic area. Cemex has a network consisting of two cement plants, one grinding plant and 13 terminals (see Figure 4.3). From the Rüdersdorf cement plant in Germany cement is railed up to terminals in Rostock and Wismar. From these terminals about 0.5Mt was exported to four cement terminals in Norway and two in Sweden in 2011. From the upgraded Broceni cement plant in Latvia about 0.3Mt was sent by rail to the terminal in Liepāja in 2011 and then exported to three terminals in Finland. Of these terminals the one in Joensuu is located far inland but can be reached by seagoing vessels of about 2000dwt via the Saimaa

Table 4.2 – Nordic trading area, 2011

Country	Seaborne exports (Mt)	Seaborne imports (Mt)	Waterborne domestic distribution (Mt)
Denmark	0.65	0.2	0.7
Estonia	0.35	0	0
Finland	0.0	0.4	0.6
Germany	0.5	0	na
Iceland	0.0	0.1	0
Latvia	0.3	0	0
Lithuania	0	0.1	0
Norway	0.4	0.3	1.2
Poland	0	0	0
Russia	0	0.2	na
Sweden	1.5	0.3	1.5
Total	3.7	1.6	4.0

Figure 4.2 – Nordic area: HeidelbergCement seaborne trading and distribution network



Figure 4.3 – Nordic area: Cemex and CRH seaborne trading and distribution networks



Figure 4.4 – Nordic area: Cemex (Aalborg) and other seaborne trading and distribution networks



canal and inland lakes. Cemex uses six self-discharging cement carriers with sizes between 2000-6000dwt to serve its net-

work. Cemex also has a grinding plant in the port of Gdynia and a terminal in Szczecin in Poland but these are currently not supplied

from overseas.

CRH, through its Finnsement subsidiary, also runs a marine network in the Nordic area consisting of three cement plants, one (slag) grinding plant and five terminals (see Figure 4.3). This is a domestic distribution network with some additional supplies from the Kunda plant in Estonia in which CRH is a part-shareholder. Finnsement distributed about 0.8Mt from its Parainen plant (Finland) by sea. The Lappeenranta plant, although located on an inland lake connected to sea via the Saimaa canal, is currently not involved in waterborne shipments but would be able to do so if required.

Finnsement also has a small grinding facility for slag cement in Raahen with capacity of about 50,000t which produces about 10,000t of white cement. Aalborg Portland, owned by Cementir (Italy), has a network of one large cement plant and eight domestic terminals in Denmark, one terminal in Norway and one terminal in Poland as well as a white cement terminal in Poland (see Figure 4.4). The company exported about 0.6Mt in 2011, of which about 0.15Mt grey cement went to Norway and Iceland and 0.45Mt of white cement to the US and various European countries. In addition, about 0.7Mt cement was distributed by sea to its domestic terminals. Aalborg Portland uses a fleet of about seven self-discharging cement carriers ranging between 3000-7000dwt to supply its complete network.

There are also five terminals that are owned by ready-mix/concrete products companies that import their own cement. These are Thomas Concrete (with terminals in Oxelösund and Landskrona in Sweden), PEAB, which started to import ground slag in Söderhamn (Sweden) in 2012, Northern Cement (owned by Ruskon Betoni) in Oulu, Finland, and Scandinavian Cement (owned by Ruskon Betoni and Luja Betoni) in Hamina, Finland.

Thomas Concrete uses self-discharging cement carriers of around 5000dwt to supply its terminals. The terminals in Finland are also currently supplied by these vessels although the Northern Cement terminal in Oulu has a dock with 10m draught and Scandinavian Cement has the capability to receive vessels up to 25,000dwt, which can be discharged by grab if needed.

PEAB brings in ground-granulated blast-furnace slag (GGBFS) from The Netherlands by small general bulk carriers of around 5000dwt and uses a road mobile unloader from stevedoring company ENBO to discharge these.

4.1.3 Atlantic area

With 5.7Mt of regional seaborne trade,

8.5Mt of domestic sea and inland waterways distribution and 1.3Mt of global seaborne trade, a total of 15.5Mt of cement and clinker is moved by water in the Atlantic region (see also Table 4.3).

The area has 18 cement plants involved in these movements plus 25 grinding plants and 63 terminals.

There is a large variety of vessels used in the Atlantic area. Large bulk carriers are used for the global exports of about 1.3Mt and shipments from Greece to the Titan terminal in Hull (UK) and from Turkey to the Ciments de l'Atlantique (now Holcim) terminal in Montoir (France). Small bulk carriers in the 3000-10,000dwt range are used to supply clinker and GBFS to the waterside grinding plants in the area, although on a number of occasions inland ships are used. Small bulk carriers are also used for bulk cement shipments mainly from Germany and Spain to the UK. In total 3.7Mt of cement and clinker was shipped by small bulk carriers in the Atlantic area in 2011.

Self-discharging ships transported about 2Mt of cement in 2011 in the Atlantic area. Key routes are from Germany and France to the UK.

Inland ships also play an important role in cement distribution with an estimated 4.5Mt. This involves routes from Germany and Belgium to The Netherlands and domestic transport in The Netherlands, Belgium, France and Germany.

Holcim has the largest network in the Atlantic area (see Figure 4.5). Its key supply bases are in Germany. From the Lägerdorf plant, cement is trucked to Brunsbüttel shipping and loading facility on the Elbe Canal. From here, cement is loaded on regular bulk carriers and self-discharging ships, carrying ranging between 2,000-7,000dwt that feed Holcim terminals in the UK and France as well as other terminals. The loading facility can handle ships of up to 20,000dwt if required. In Bremen Holcim has a slag grinding plant from which general cargo ships and self-discharging ships in the 2000-7000dwt range are loaded.

In Belgium Holcim has the large Obourg plant from where it supplies clinker to its grinding plant in Harcourt by inland vessels. From both plants it subsequently ships cement of various types to its ready-mix and concrete plants in Belgium and The Netherlands, mostly by inland self-discharging ships. From the Obourg plant cement is also shipped to Holcim's terminal in Antwerp. This terminal can be used for domestic distribution but also to load sea-going vessels with cement or to act as a cement import terminal if needed.

Holcim has two grinding plants on the French coast. The one in Dunkirk is used for slag cement. In Rochelle, the company is building a new plant that can receive large

Table 4.3 – Atlantic trading area, 2011

Country	Seaborne exports (Mt)	Seaborne imports (Mt)	Waterborne domestic distribution (Mt)
Belgium	2.0	0.8	2.0
France	0.6	0.8	0.5
Germany	0.7	0	1.0
Ireland	0.4	0.2	0.2
The Netherlands	0	1.5	2.0
Portugal	2.0	0.4	1.0
Spain	1.3	0	0.8
United Kingdom	0	2.5	1.0
Total	7.0	6.2	8.5

bulk carriers with clinker and is expected to be ready in 2013. Holcim has also recently purchased the Ciments de l'Atlantique terminal in Montoir which is capable of receiving 45,000dwt general bulk carriers with cement. The La Rochelle grinding plant and Montoir terminal allow Holcim to import clinker and cement from any source worldwide.

Holcim also has a cement terminal in Vigo on the Atlantic side of Spain. This terminal is supplied from the Holcim Carboneras plant on the Spanish Mediterranean coast.

Cementos Portland Valderrivas has one cement plant on the Atlantic side (see Figure 4.5). From its Mataporquera works cement is raile/trucked to its ship-loading terminal in Santander. This terminal is capable of loading ships up to about 20,000dwt.

Valderrivas also has a terminal in Santursaba. Although this terminal is a converted, large grain terminal of over 30,000t, only three 1000t silos are currently available for cement. From the Santander terminal the Valderrivas terminal in the UK, Dragon Alfa in Sharpness, is supplied using regular bulk carriers of about 5000dwt. Following an asset swap between Valderrivas and CRH in February 2013, Southern Cement's Ipswich terminal has now been transferred to CRH.

Lafarge has a substantial network in France and the UK (see Figure 4.6). The key supply base for this network is its cement plant in the port of Le Havre from which both general bulk carriers and self-discharging ships of up to 10,000dwt can be loaded. From this plant, cement is supplied to its terminal facilities in the UK, its cement terminal

Figure 4.5 – Atlantic area: Holcim and Valderrivas seaborne trading and distribution networks

