



# INTERCEM

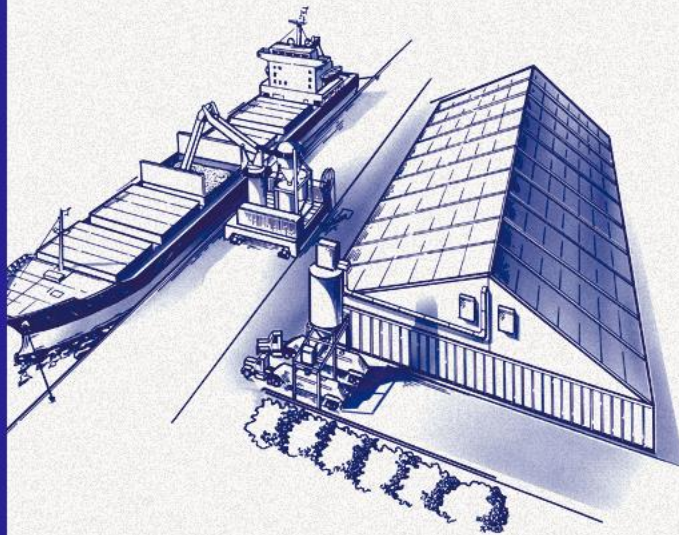
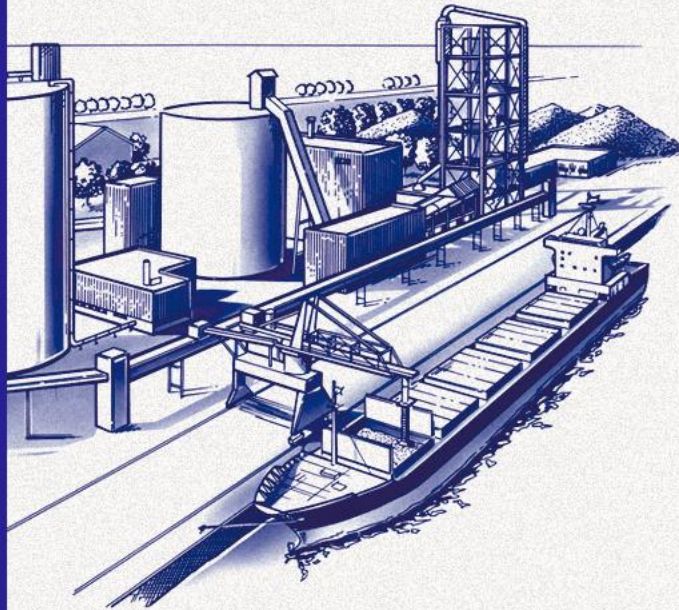
SHIPPING AMERICAS

## A wave of new terminals

The impact of terminal ownership on cement imports  
into North America

Ad Ligthart

INTERCEM Shipping Americas 21<sup>st</sup> May 2018




CEMENT  
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# Cement Distribution Consultants

## an introduction

Market knowledge	Consulting	Project / interim management
<ul style="list-style-type: none"> <li>The global cement industry on Google Earth.</li> <li>The most comprehensive global database on waterside cement plants, waterside grinding plants and terminals.</li> <li><a href="http://www.cementdistribution.com">www.cementdistribution.com</a> (a free and comprehensive website on cement trade and distribution).</li> <li>Authors of the Handbook on Global Cement Trade and Distribution.</li> <li>35 Years experience.</li> </ul> 	<ul style="list-style-type: none"> <li>The ability to advise customers on every aspect of cement and clinker trade and distribution including strategic, economical, logistical, technical and operational aspects as well as sourcing, shipping, facilities, handling systems, etc., etc.</li> <li>A clear vision on port and facility design that can adapt to changing trade and industry conditions.</li> <li>Projects realised on every continent.</li> <li>Currently consultant to 5 terminal projects in North America of which the two largest cement terminals in the world.</li> </ul>	<ul style="list-style-type: none"> <li>Substantial experience in realising projects and managing complete logistical chains.</li> <li>Examples: <ul style="list-style-type: none"> <li>Setting up and managing the cement and fly ash supply to a large construction project including self-discharging cement carriers, floating terminal, etc.</li> <li>Redevelopment of a large brown field bulk terminal.</li> <li>Setting up a fly ash import operating</li> <li>Resolving operational and managerial problems of a grinding facility.</li> </ul> </li> </ul>

# INTRODUCTION




Even though a substantial number of existing terminals is still mothballed there are 18 new projects (4 terminal expansions, 4 big bag operations with the capability to grow to bulk imports and 10 new facilities) on their way since 2014 and several more are being considered. These are almost all by independents (i.e. companies without cement production facilities in the US). What are the reasons for this? How will this affect US cement imports where (in 2014) almost all terminals were controlled by only ten US producers? To give an answer to these questions it is required to have a look at the relationship between US cement production facilities and terminal ownership.





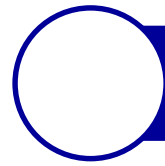
# Contents of presentation

- 
- Global cement trade developments
  - US seaborne cement imports during and after the crisis
  - The current US cement import situation
  - The economic mechanisms behind cement trade
  - A wave of new terminals
  - The relationship between US cement plant and import terminal ownership
  - Final considerations



## Global cement trade developments





## Global cement trade developments

- A glut of exportable clinker and cement volumes has developed in the past few years with a downward pressure on F.O.B prices. This glut will stay for quite some time.
  - Long-term very substantial overcapacity in China
  - Iran, Saudi Arabia, Indonesia (re) enter the market
  - Turkey, Vietnam, Pakistan keep adding capacity larger than their consumption growth
  - Structural cement surpluses in South Europe, UAE, Thailand, etc.
- Shipping prices are slowly but steadily rising but remain very low compared to pre-crisis levels
- Trade in cementitious materials is growing and becomes more global

Developments in cement and clinker trade



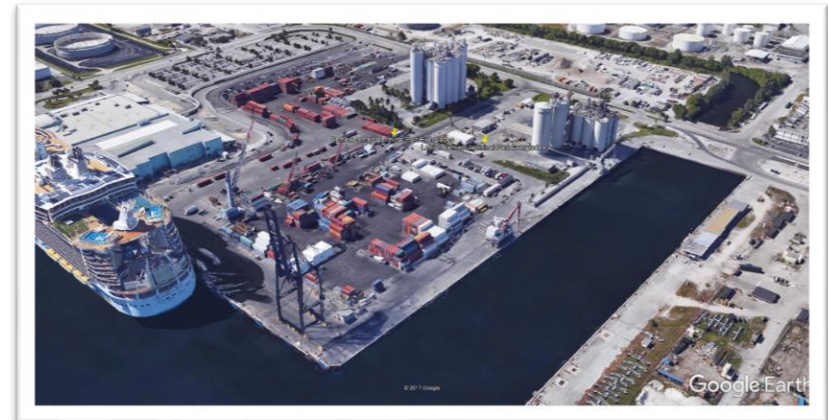
## Global cement trade developments

Global seaborne trade in cement and clinker in 2016 reached approx. 117 mt. In addition another 94 mt was distributed by sea domestically. Inland water domestic transport totalled approx. 21 mt. (excl. China).

Especially seaborne clinker trade increased reaching approx. 49 mt. Bulk cement seaborne trade grew to close to 52 mt and bagged cement shipments dropped slightly to 16 mt.

Seaborne domestic distribution in 2016 consisted of approx. 10 mt clinker 73 mt bulk cement and 11 mt of bagged cement.

Of all seaborne transport of cement and clinker in 2016 about 80 mt was transported by bulk carriers (Handysize and larger), 34 mt by coastal cargo vessels and about 97 mt by self-discharging cement carriers.





## Global cement trade developments

- Key growth markets are cement imports into the US and clinker imports into Africa but regional trade around Europe and within Asia are increasing too.
- The long-term export availability of low priced cement and (especially) clinker, in combination with low shipping prices makes it uneconomical to build integrated cement plants in coastal areas wherever in the world. It is more economical to import. New coastal cement production facilities will be grinding plants.
- The very large difference between the CIF costs of imported cement (or clinker) and domestic cement prices makes importing highly attractive.
- With the growth of bulk cement imports in the US and related cement type and quality issues it is getting more difficult to source bulk cement for the US and FOB prices are creeping up. Also shipping costs are increasing steadily.

Developments in cement and clinker trade





## US seaborne cement imports during and after the crisis



# US cement terminals during the crisis (2010)

Alaska

Quebec

Pacific North	
2006	2,1 mt
2010	1,0 mt

Total seaborne imports 2.75 mt

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Pacific South	
2006	6,7 mt
2010	0,2 mt

Hawaii

Hawaii	
2006	0,40 mt
2010	0,35 mt

Atlantic North	
2006	3,8 mt
2010	0,4 mt

Giant closes and sells terminal in Chesapeake

Atlantic South	
2006	6,7 mt
2010	0,5 mt

Big Rivers	
2006	5,4 mt
2010	0 mt

South Central	
2006	3,1 mt
2010	0,3 mt

South Coast Cement terminal switched over from cement to fertilizer

Puerto Rico

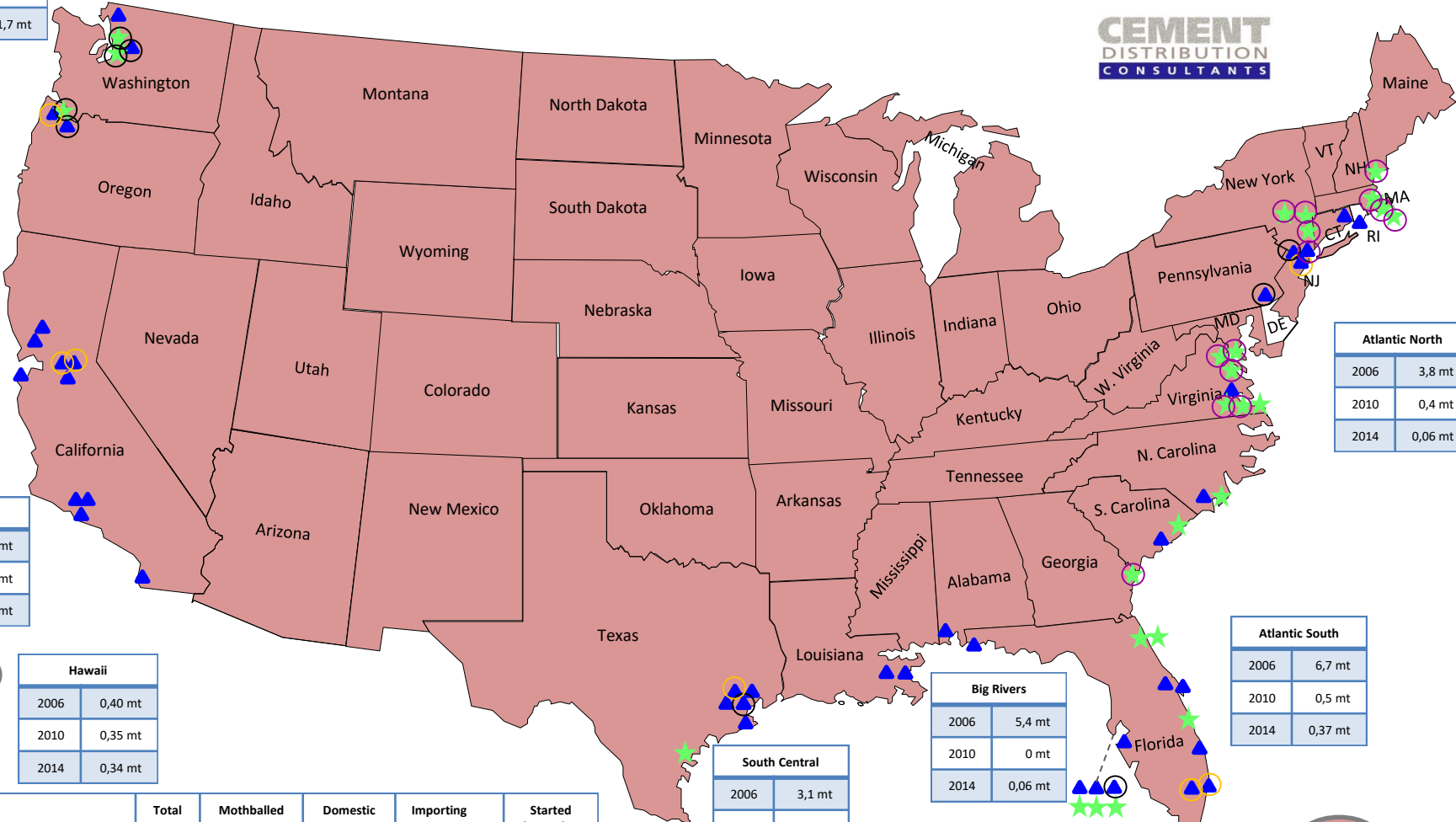
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	Total	Mothballed	Domestic use	Importing cement during crisis
Terminals with ship unloading system	46	38	0	8
Terminals receiving self-discharging vessels	26	8	13	5
Total	72	46	13	13



US cement terminals in 2014

Pacific North	
2006	2,1 mt
2010	1,0 mt
2014	1,7 mt



Atlantic North	
2006	3,8 mt
2010	0,4 mt
2014	0,06 mt






Atlantic South	
2006	6,7 mt
2010	0,5 mt
2014	0,37 mt

Big Rivers	
2006	5,4 mt
2010	0 mt
2014	0,06 mt

South Central	
2006	3,1 mt
2010	0,3 mt
2014	1,5 mt

Hawaii	
2006	0,40 mt
2010	0,35 mt
2014	0,34 mt

Pacific South	
2006	6,7 mt
2010	0,2 mt
2014	0,03 mt

	Total	Mothballed	Domestic use	Importing cement during crisis	Started importing again in
					
 Terminals with ship unloading system	46	31	1	8	7
Terminals receiving self-discharging vessels	26	10	13	3	0
Total	72	41	13	11	7



US cement terminals in 2015

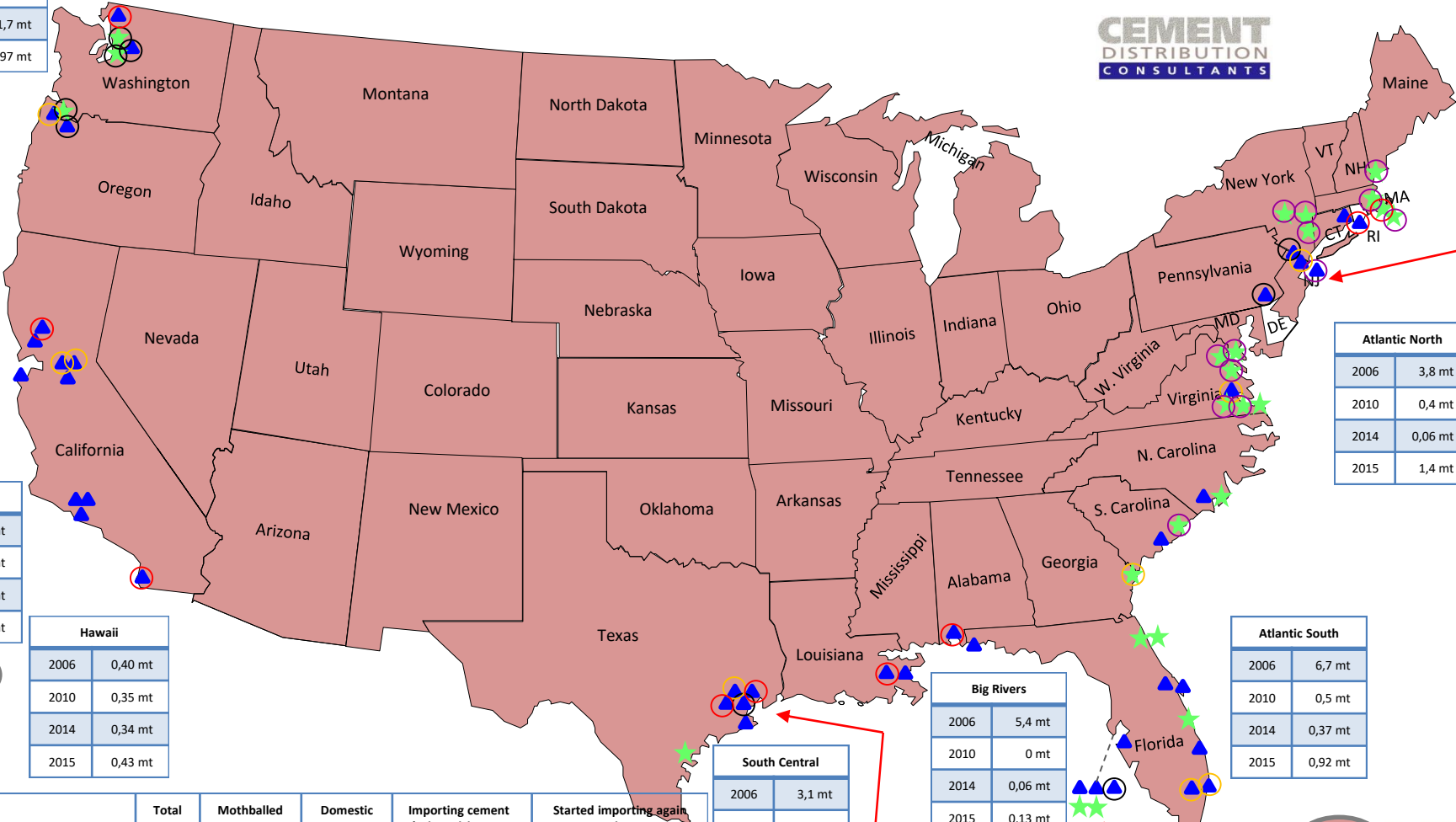
Alaska

Quebec

Total seaborne imports 7,48 mt

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Pacific North	
2006	2,1 mt
2010	1,0 mt
2014	1,7 mt
2015	1,97 mt



Atlantic North	
2006	3,8 mt
2010	0,4 mt
2014	0,06 mt
2015	1,4 mt

Pacific South	
2006	6,7 mt
2010	0,2 mt
2014	0,03 mt
2015	0,43 mt

Hawaii

Hawaii	
2006	0,40 mt
2010	0,35 mt
2014	0,34 mt
2015	0,43 mt

Atlantic South	
2006	6,7 mt
2010	0,5 mt
2014	0,37 mt
2015	0,92 mt

Big Rivers	
2006	5,4 mt
2010	0 mt
2014	0,06 mt
2015	0,13 mt

South Central	
2006	3,1 mt
2010	0,3 mt
2014	1,5 mt
2015	2,2 mt

	Total	Mothballed	Domestic use	Importing cement during crisis	Started importing again in	
					2014	2015
Terminals with ship unloading system	45	20	1	8	7	9
Terminals receiving self-discharging vessels	25	8	13	3	0	1
Total	70	28	14	11	7	10

Argos adds ship unloader to Houston terminal

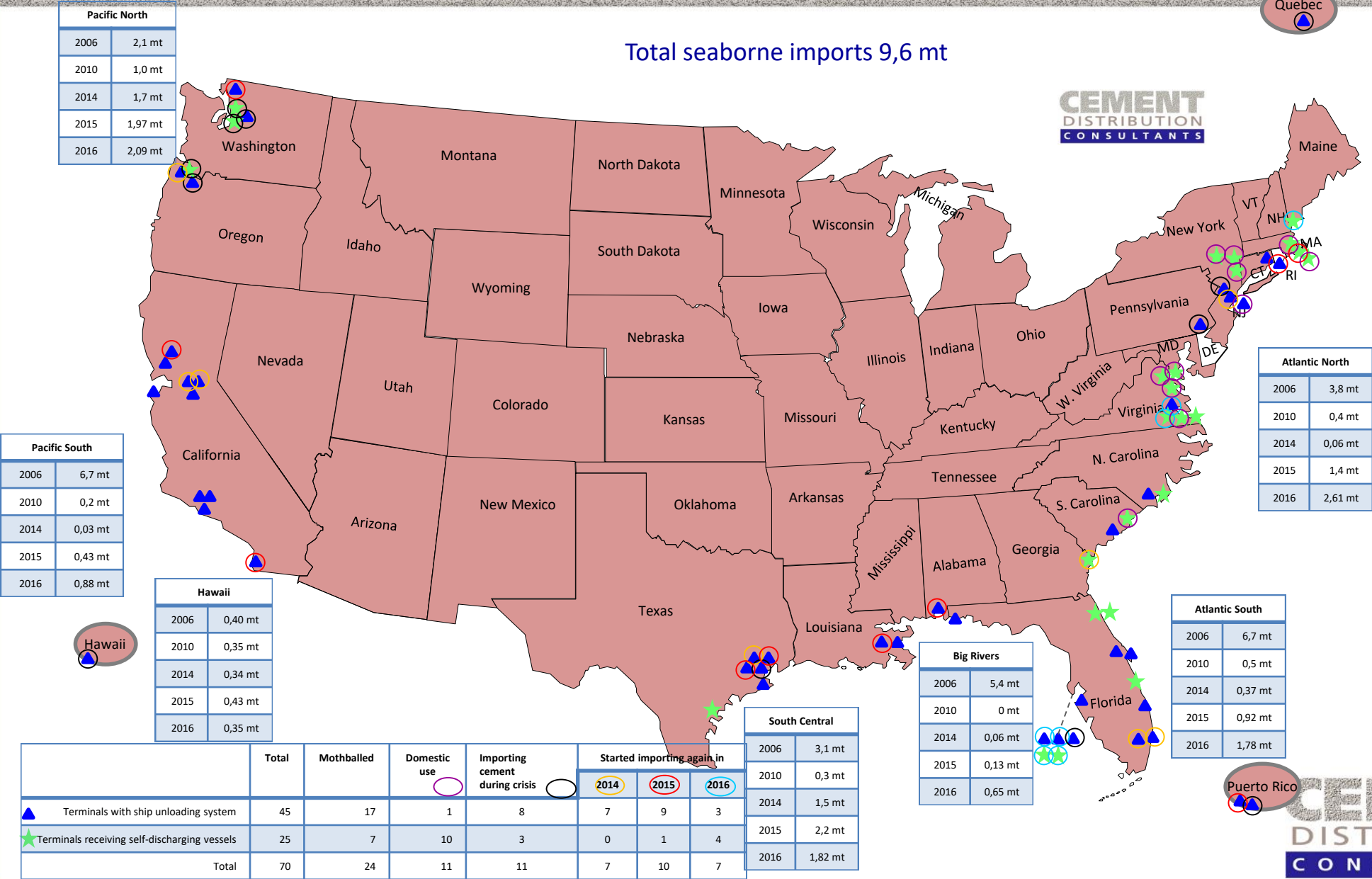
Cemex closes terminal and acquires Holcim terminal

Puerto Rico

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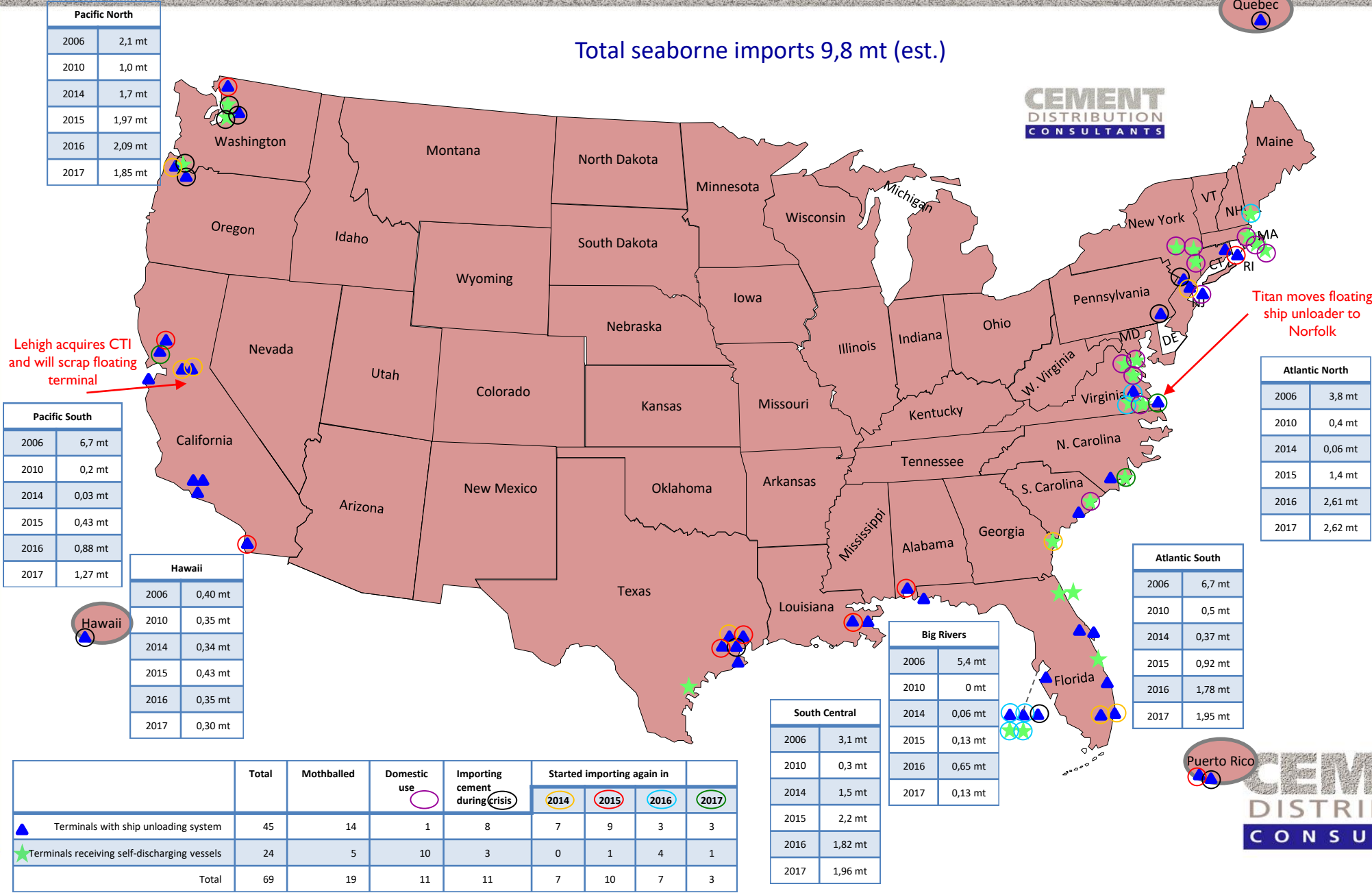


US cement terminals in 2016





US cement terminals in 2017







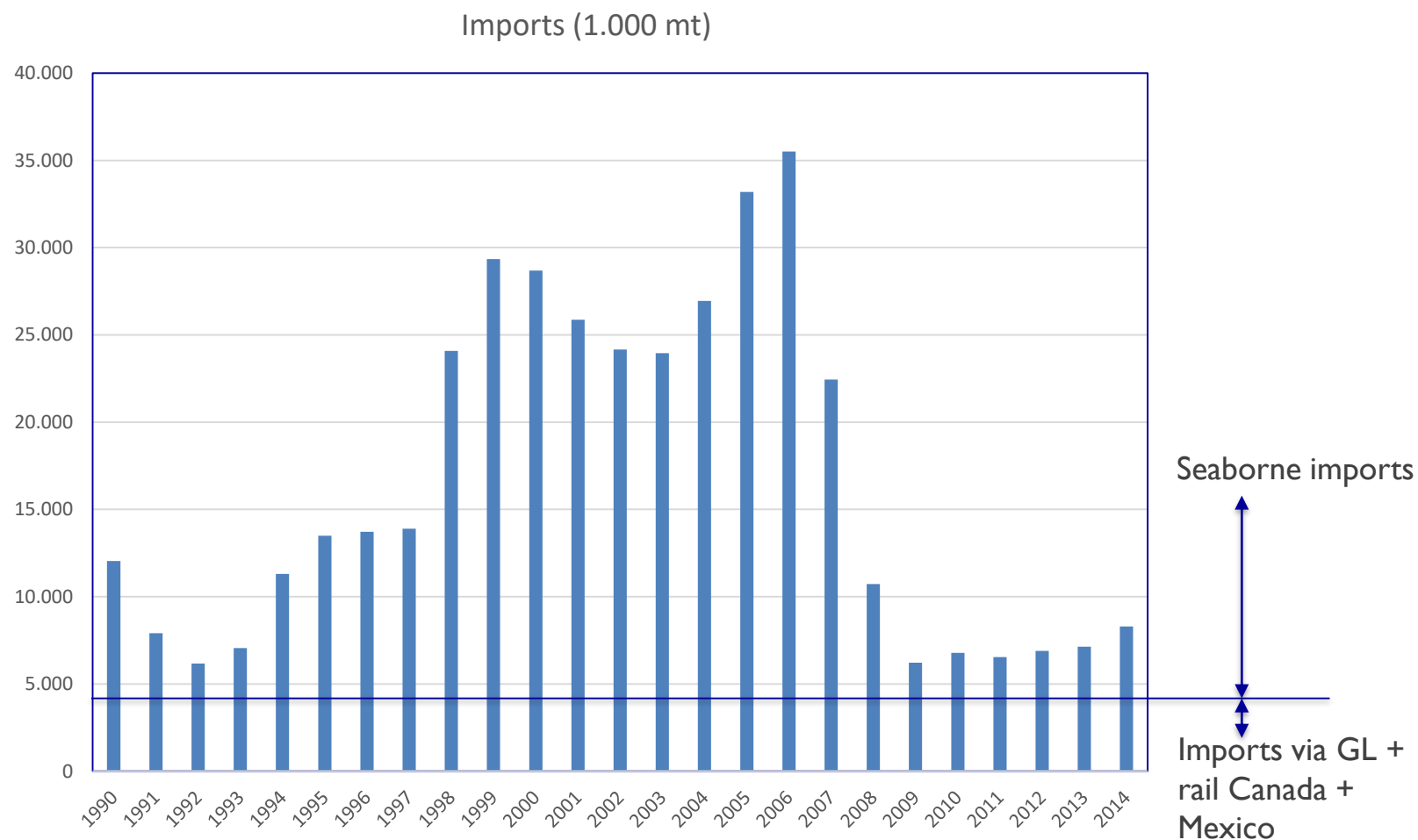
The current US cement import situation



## The current US cement import situation

- US seaborne cement imports which rapidly increased in 2014, 2015 and 2016 slowed down in 2017 with estimated cement imports staying about level with 2016 with a total of about 9,8 million tons. The slowdown in growth is a bit against expectations. The regions that have slowed down most are the Northwest and Gulf area. The Southwest and Northeast are still growing more strongly.
- Generally though expectations for the coming years are quite good with hopes that the figure of over 30 million tons of seaborne imports will be reached again in 6-8 years and might be even surpassed after that. The level of new terminal expansions and new buildings is a good indication of this.
- In 2006 US seaborne imports were about 30 million tons. In 2010 this dropped to less than 3 million tons. During the crisis most cement import terminals were mothballed. Since 2014 seaborne imports are increasing again and terminals are gradually reopening. However, with many terminals still mothballed a wave of new terminal projects is on its way.

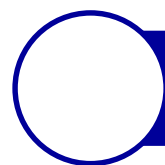
## The current US cement import situation



Source: Global Cement Report

A bit of history of US cement imports



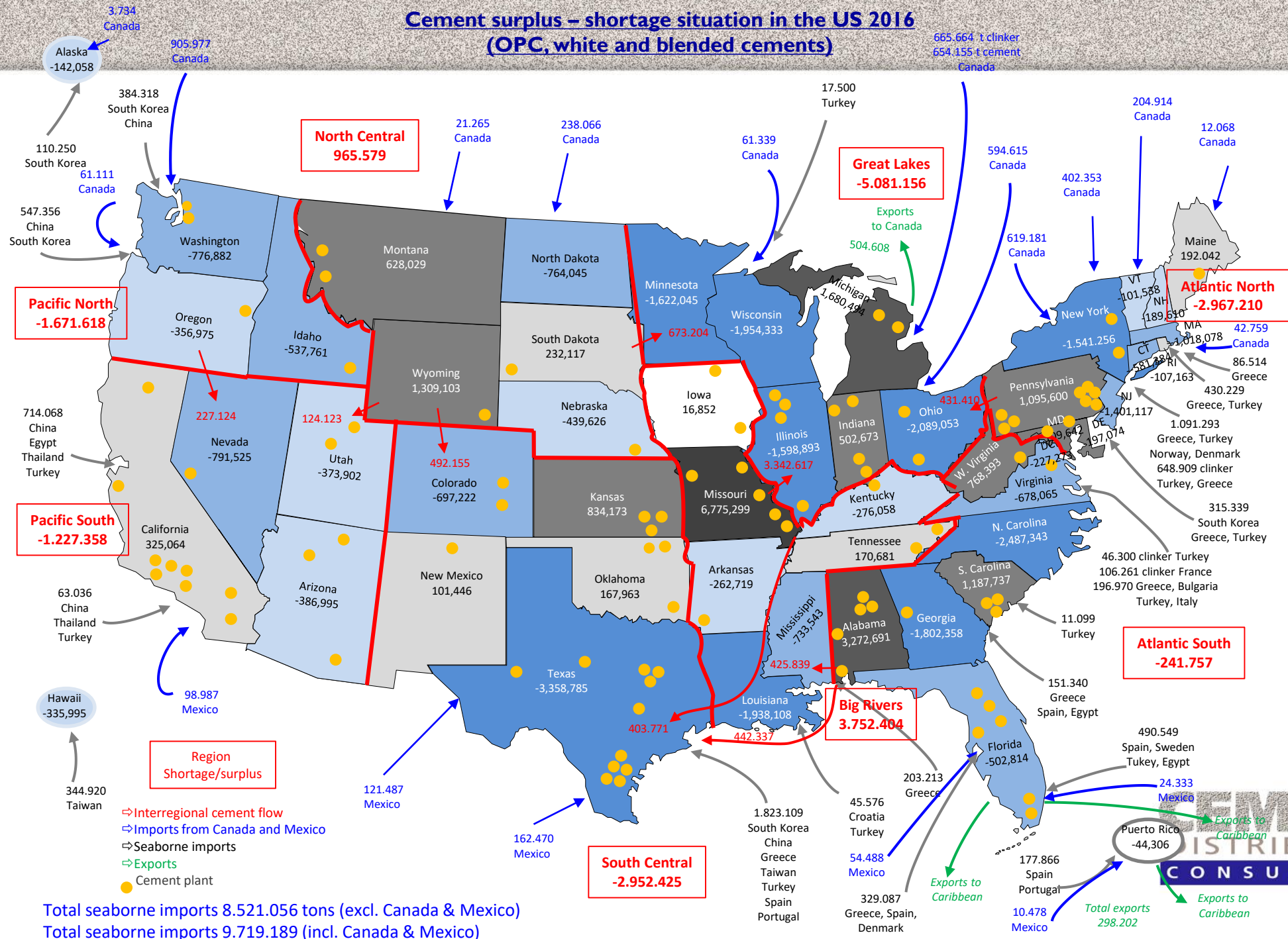


## Importance of imports within the domestic cement market

Year	Cons. (app.)	Imports	%		Year	Cons. (app.)	Imports	%
1992	72.124	4.548	6		2005	128.280	30.403	23
1993	79.198	5.332	7		2006	126.810	32.141	27
1994	86.370	9.072	10		2007	116.600	21.469	19
1995	86.612	11.473	11		2008	96.800	10.744	11
1996	89.400	10.700	12		2009	71.500	6.211	8
1997	96.018	14.523	14		2010	71.200	6.013	8
1998	102.457	19.878	19		2011	72.200	5.812	7
1999	108.882	24.578	21		2012	77.900	6.107	7
2000	110.048	24.561	20		2013	81.700	6.289	7
2001	112.710	23.591	21		2014	89.200	7.584	8
2002	110.020	22.198	20		2015	92.100	10.367	11
2003	114.100	21.015	20		2016	94.200	11.742	13
2004	121.980	25.396	21		2017	96.800	12.000	13

Source: USGS

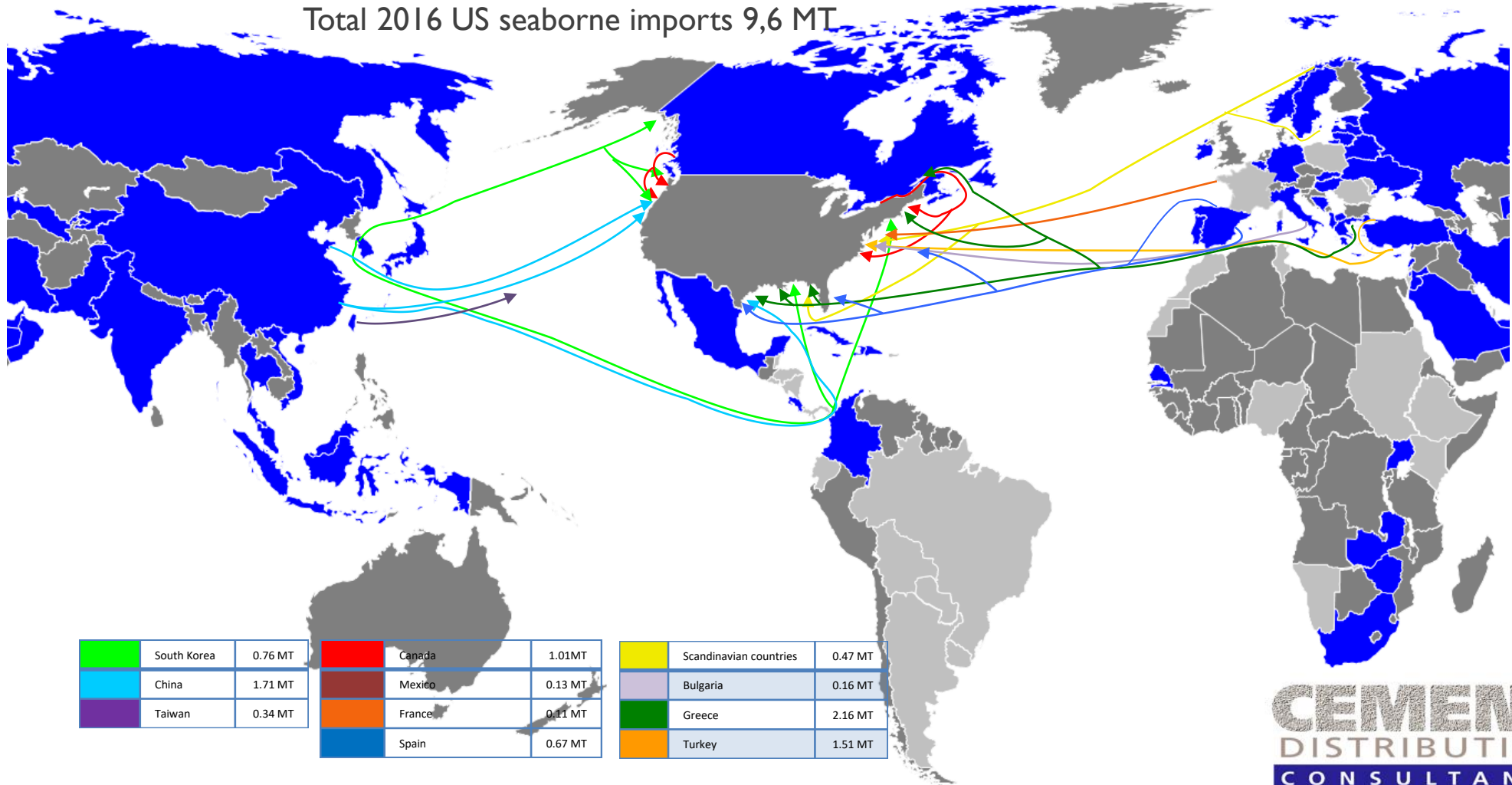
# Cement surplus – shortage situation in the US 2016 (OPC, white and blended cements)





# The current US cement import situation

Total 2016 US seaborne imports 9,6 MT



Total Asia 2.81 MT

Total Canada + Mexico 1,14 MT

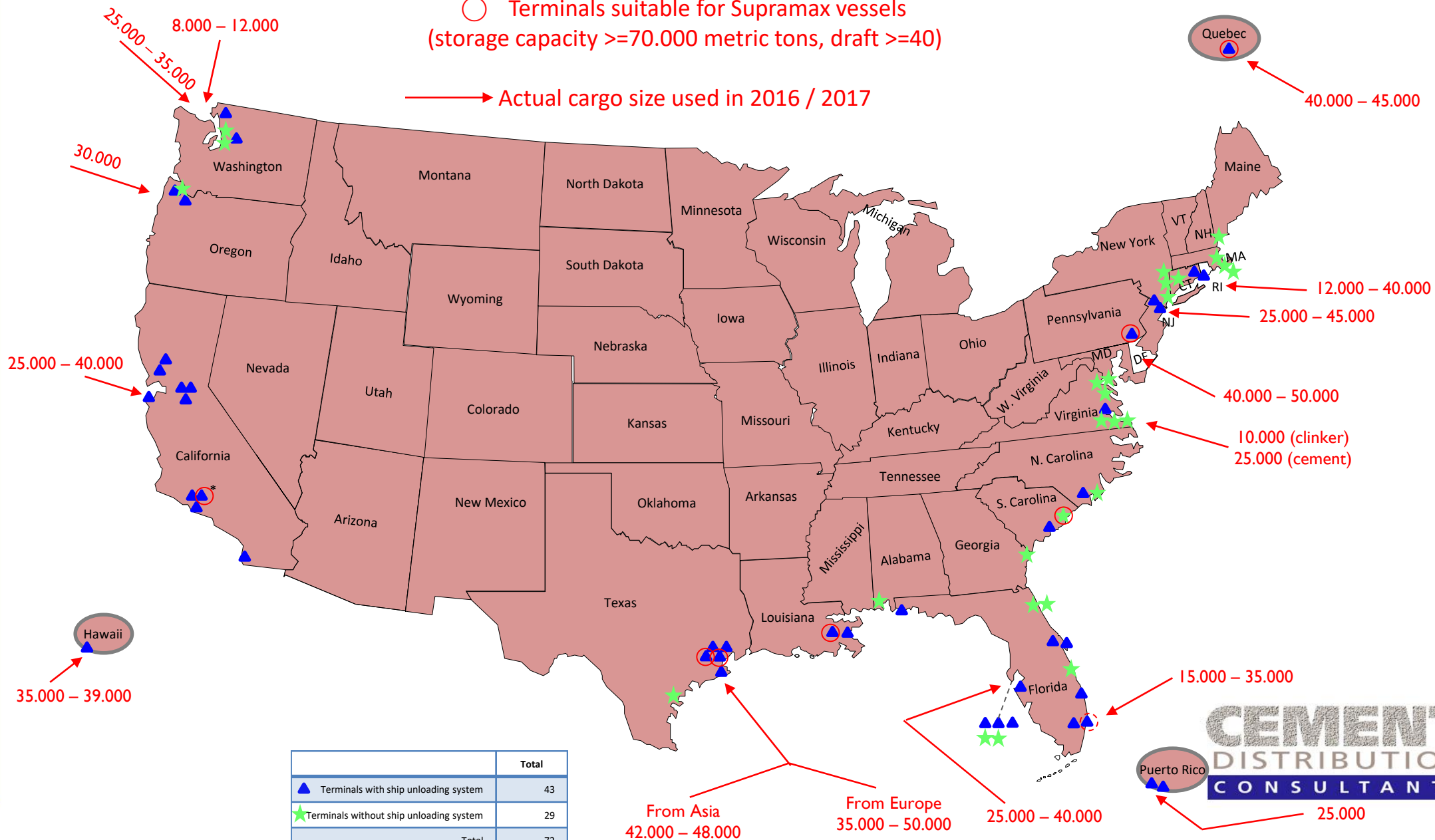
Total Europe 5.08 MT

Total small volumes 0,67 MT  
(incl. South America.)

# Are US terminals able to handle bigger vessels

○ Terminals suitable for Supramax vessels  
(storage capacity  $\geq 70,000$  metric tons, draft  $\geq 40$ )

→ Actual cargo size used in 2016 / 2017



	Total
▲ Terminals with ship unloading system	43
★ Terminals without ship unloading system	29
Total	72

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## The current US cement import situation

Total seaborne import volume 2016 is 9,6 million tons

Of which      20% in cargo sizes <20.000 tons  
                  45% in cargos size between 20.000 and 40.000 tons  
                  35% in cargo sizes > 40.000 tons

The largest cargo size was 52.000 tons

The current combination of low F.O.B. prices for exported cement and low shipping costs allows for this far from optimal shipping situation. This likely will continue for the next few years. But shipping prices are already improving and there will be times coming that the transport cost difference between Handysize, Handymax, Supramax and Ultramax vessels will be decisive for the viability of US cement imports.

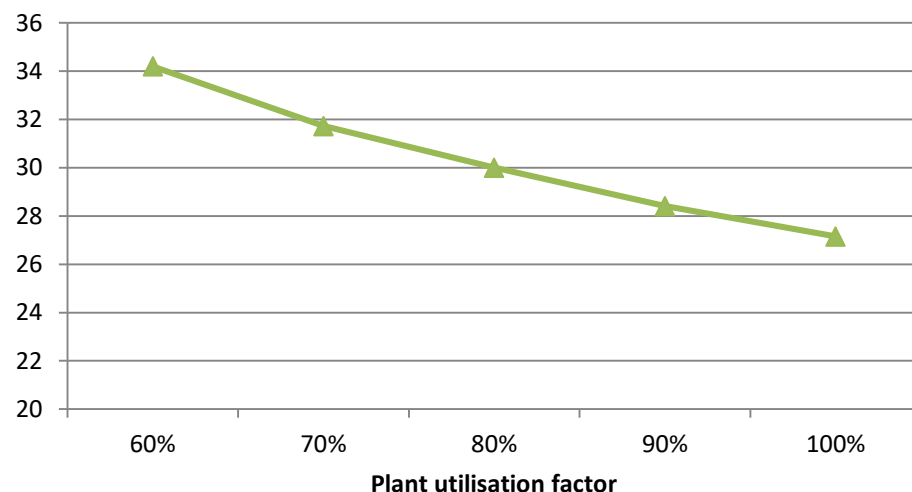


## The economical mechanisms behind cement trade



# Economical mechanisms

**Production cost per ton  
(Energy, labour, maintenance, raw materials)**



**Example  
only!**

Maximizing plant utilisation

## Assumptions:

- Plant capacity 1,5 mtpa
- Ex works price domestic € 85
- Ex works price exports € 40

## Example 1

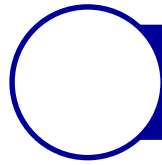
Domestic sales 1.050.000 tons (70%)  
Export sales 0

Income domestic sales	89.250.000
Income export sales	0
Total income	89.250.000
Production costs (@70%)	<u>33.316.500</u>
Contribution to financial costs and profit	55.933.500

## Example 2

Domestic sales 1.050.000 tons (70%)  
Export sales 300.000 tons (20%)  
Total sales 1.350.000 tons ( 90%)

Income domestic sales	89.250.000
Income export sales	<u>12.000.000</u>
Total income	101.250.000
Production costs (@90%)	<u>38.353.500</u>
Contribution to financial costs and profit	62.896.500

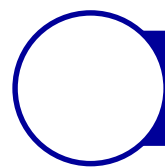


## Economical mechanisms

- Cement sold in other markets than the local one has to have a lower Ex Works price to allow for the higher cost of transportation.
- The margin on the additional cement sold into other markets provides an additional contribution which largely goes directly to the bottom line.
- The key benefit of the additional cement sold into other markets is the higher utilisation of the plant resulting in a substantial lower production cost per ton over the entire production of the plant!

Maximizing plant utilisation





## The effect of ownership on overall trade margins (Example only!!)

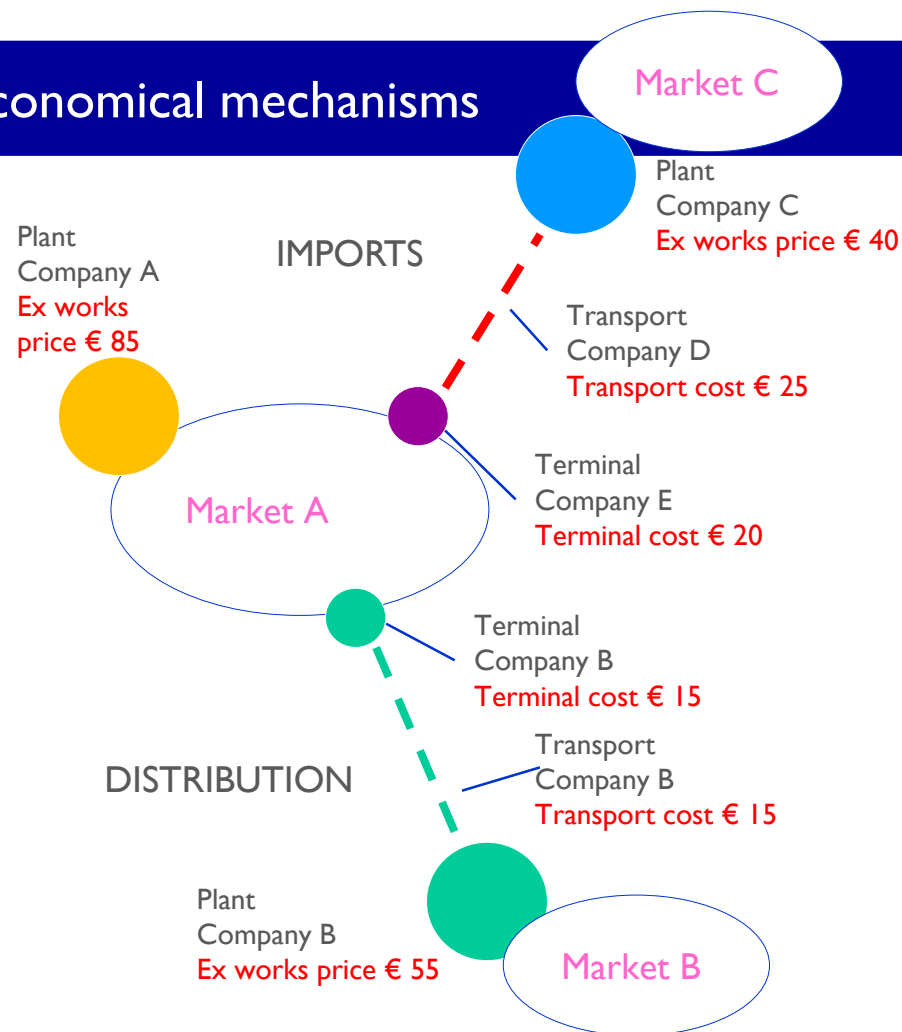
Plant ownership 100%	Terminal ownership 100%	Plant ownership 100%	Terminal ownership 50%	Plant ownership 100%	Terminal ownership 0%
Same (multinational) owner owns 100% of export plant and 100% of import terminal		Same (multinational) owner owns 100% of export plant and 50% of import terminal		Export plant owner has no ownership in import terminal	
Achieved total margin per ton is B + C + F (20 + 6 + 50 = US\$76)		Achieved total margin per ton is B + C + 0,5 F (20 + 6 + 25 = US\$51)		Achieved total margin per ton is B + C (20 + 6 + 50 = US\$26)	

Export plant			Shipping	Terminal	
A	B	C	D	E	F
Pure production and loading cost	Improved prod.cost by exports	Marging (contribution) towards capital cost and profit	Shipping cost	Pure terminal operating cost	Marging Contribution towards capital cost and profit
			F.O.B	CIF	Ex. terminal
	\$36		\$42	\$60	\$70
					\$120

All figures assumed and indicative only and in US\$/metric ton

B is the improved production cost over the full production of the export plant. When the production of a plant increases with 25% because of exports and production, cost savings are \$5 m/ton. As a result the contribution to the margin of the lower production cost per exported ton is \$20.

# Economical mechanisms



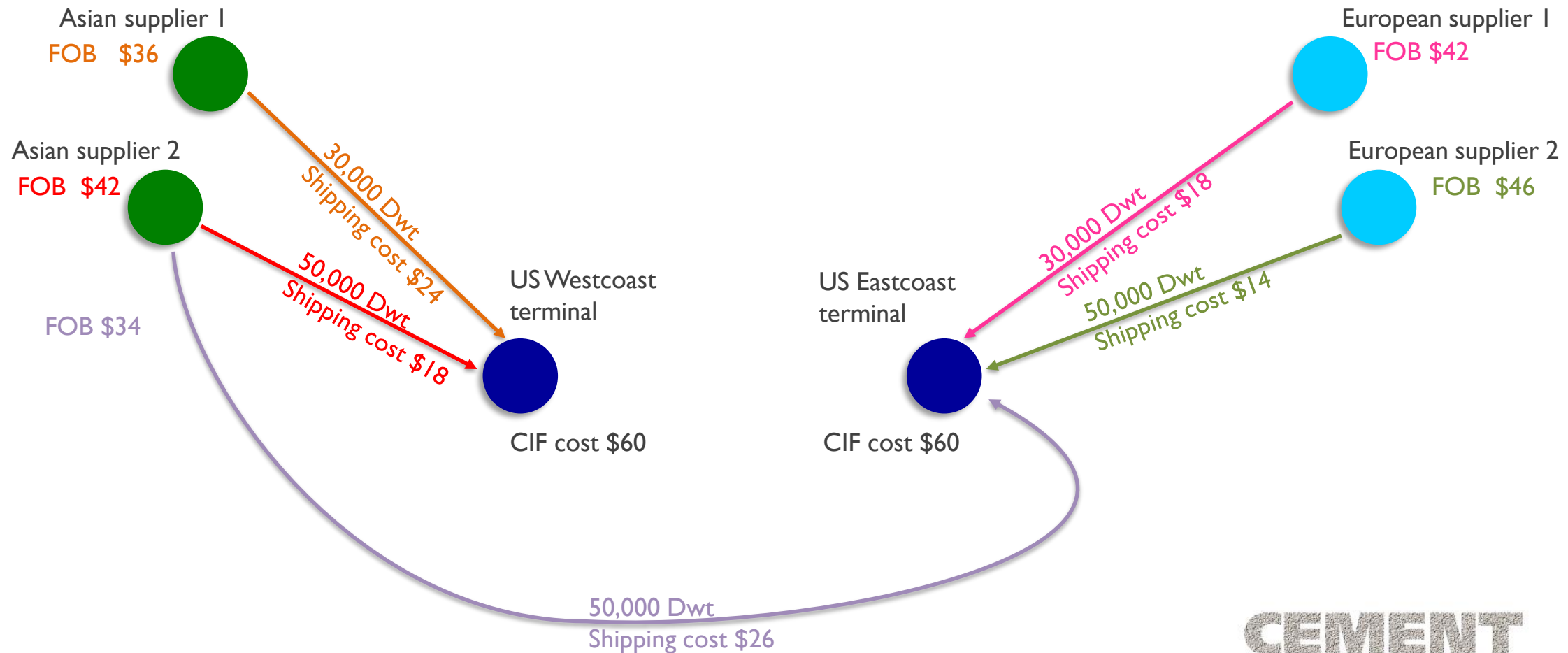
A single plant supplying a single local market at first glance seems to be in the most profitable situation.

However, this is only the case when this plant can reach (near) full utilisation rates. When company A can only sell 70% of its capacity in its home market and has no means to reach other markets it is far worse off than company B or C that might be able to sell 70% in their home markets plus 20% to other markets, even at a reduced ex works price.

Trade and distribution capability matters!



## The effect of ship size and shipping distance on shipping cost and achievable F.O.B. price



All figures assumed and indicative only and in US\$/metric ton

## Reducing shipping cost

### Shipping cost structure

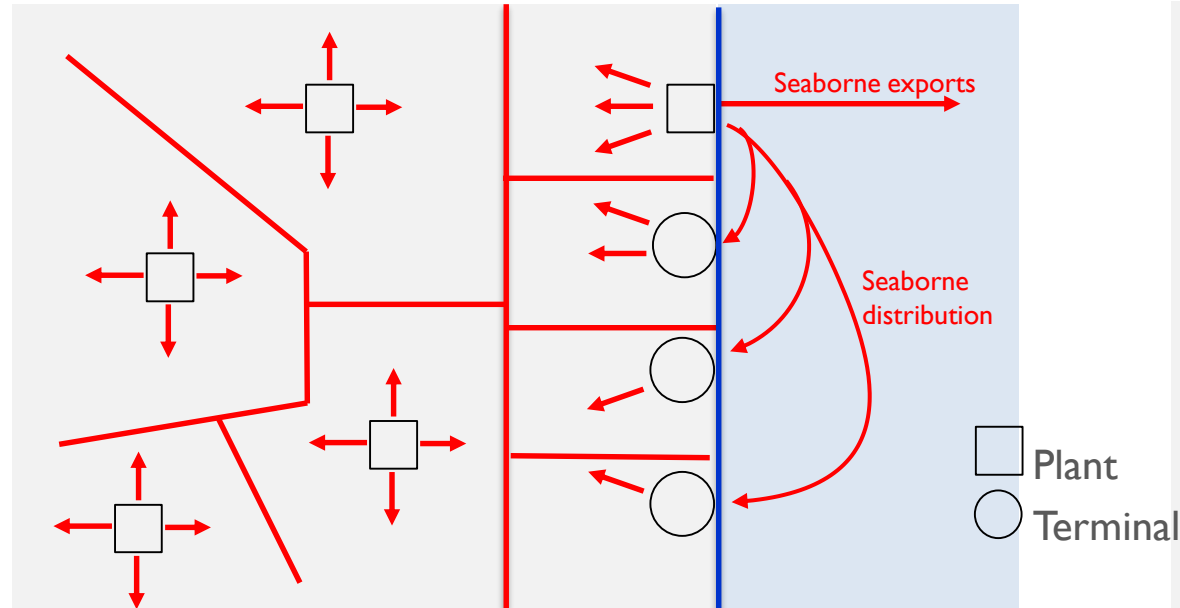
1. Cost of vessel, crew and maintenance per day
2. Duration of trip
  - Loading time
  - Sailing time
  - Waiting time
  - Unloading time
  - Repositioning time
3. Fuel costs
  - HFO during sailing
  - MGO during port or waiting days
4. Route effects
  - General shipping situation
  - Availability of return cargo

### Methods to reduce shipping cost

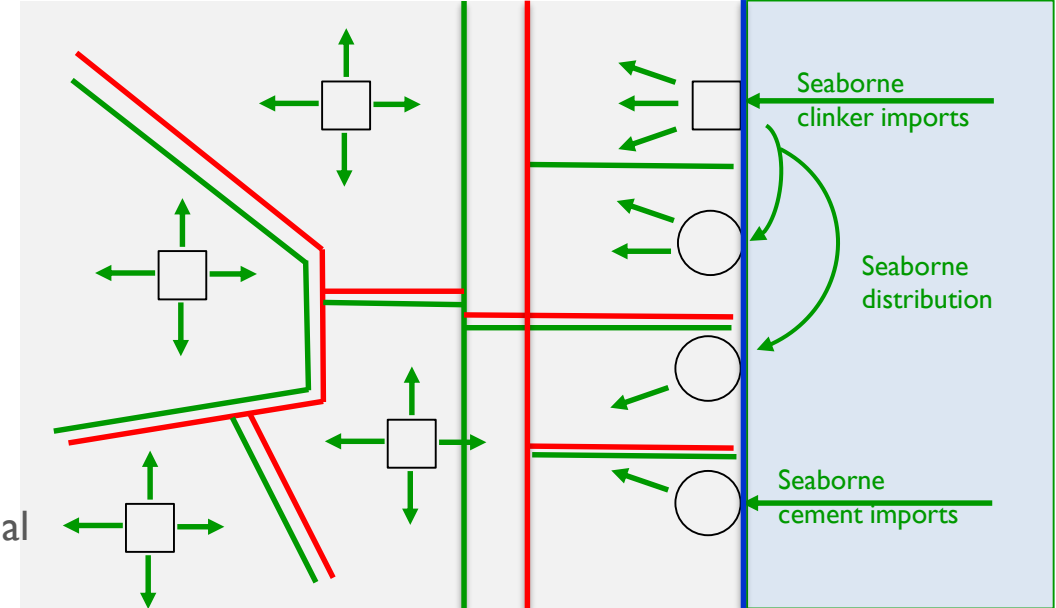
- A. The larger the vessel the lower the transportation cost per ton.
- B. Exporters can reduce shipping cost by increasing port draft, increasing buffer storage and increasing size and capacity of loading equipment.
- C. Importers can reduce shipping cost by increasing port draft, increasing buffer storage and increasing size and capacity of unloading equipment.
- D. Shipping cost can be reduced (or fixed for a longer period) by buying ton \* miles forward for a certain route, by investing in the shipping industry and by arranging guaranteed return cargo.



## The large importance of networks



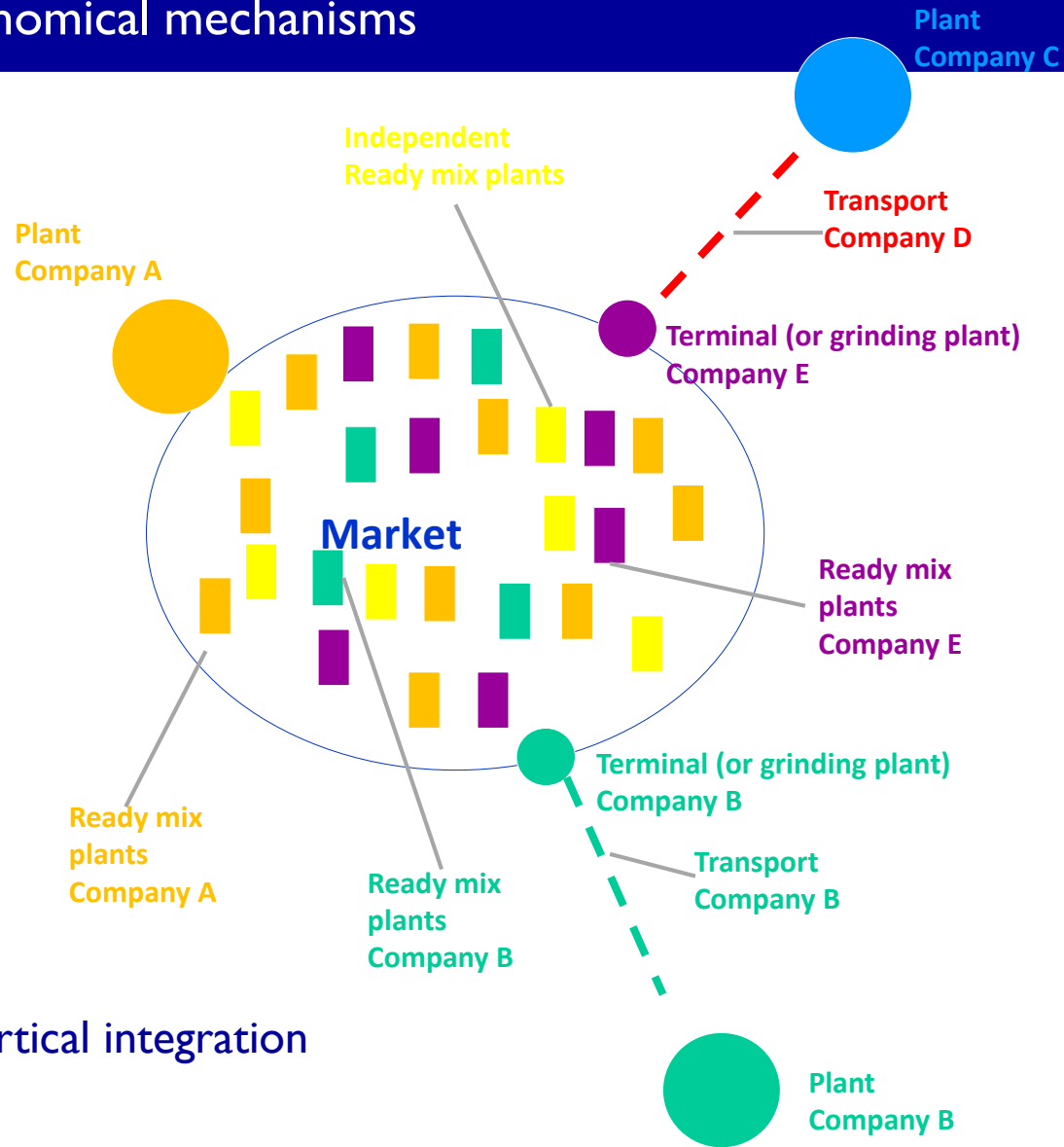
Market areas and cement flows in over supply situation.



Market areas and cement flows in a shortage situation.

The ownership of cement terminals matters a lot. Cement terminals work best in a network with cement plants and allow plants to have maximum possible utilisation in both surplus and shortage periods and to keep market share.

## Economical mechanisms



Effects of vertical integration

Vertical integration of the cement industry into the ready mix concrete products, sand and aggregate industries has the effect that for cement supply the market share and pricing become more stable.

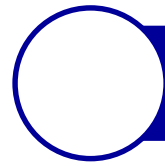
This allows for long-term investments in distribution facilities and transport methods and with that a lower distribution cost per ton.

However, vertical integration means that independent ready mix and concrete products companies have to buy their cement from their competitors and gives a strong incentive for them to realize their own cement supply by imports.





A wave of new terminals



## A wave of new terminals

- 1) The US is back to a cement shortage situation and seaborne imports are required again. These imports are forecasted to double in the next three years and grow to about 30 mtpa in the coming 6-8 years.
- 2) With the current low F.O.B. prices for cement globally and still very low shipping costs, importing cement in the US is highly attractive. US independent ready-mix companies, trading companies and foreign cement producers are interested to participate.
- 3) As long as import volumes are kept within the “shortage volume” there is little risk for anti-dumping suits which makes imports possible for non US producers.
- 4) The US will need to import substantial volumes of cementitious materials. More terminals need to be created with multiple material capability.

What are the reasons for all this new terminal activity?



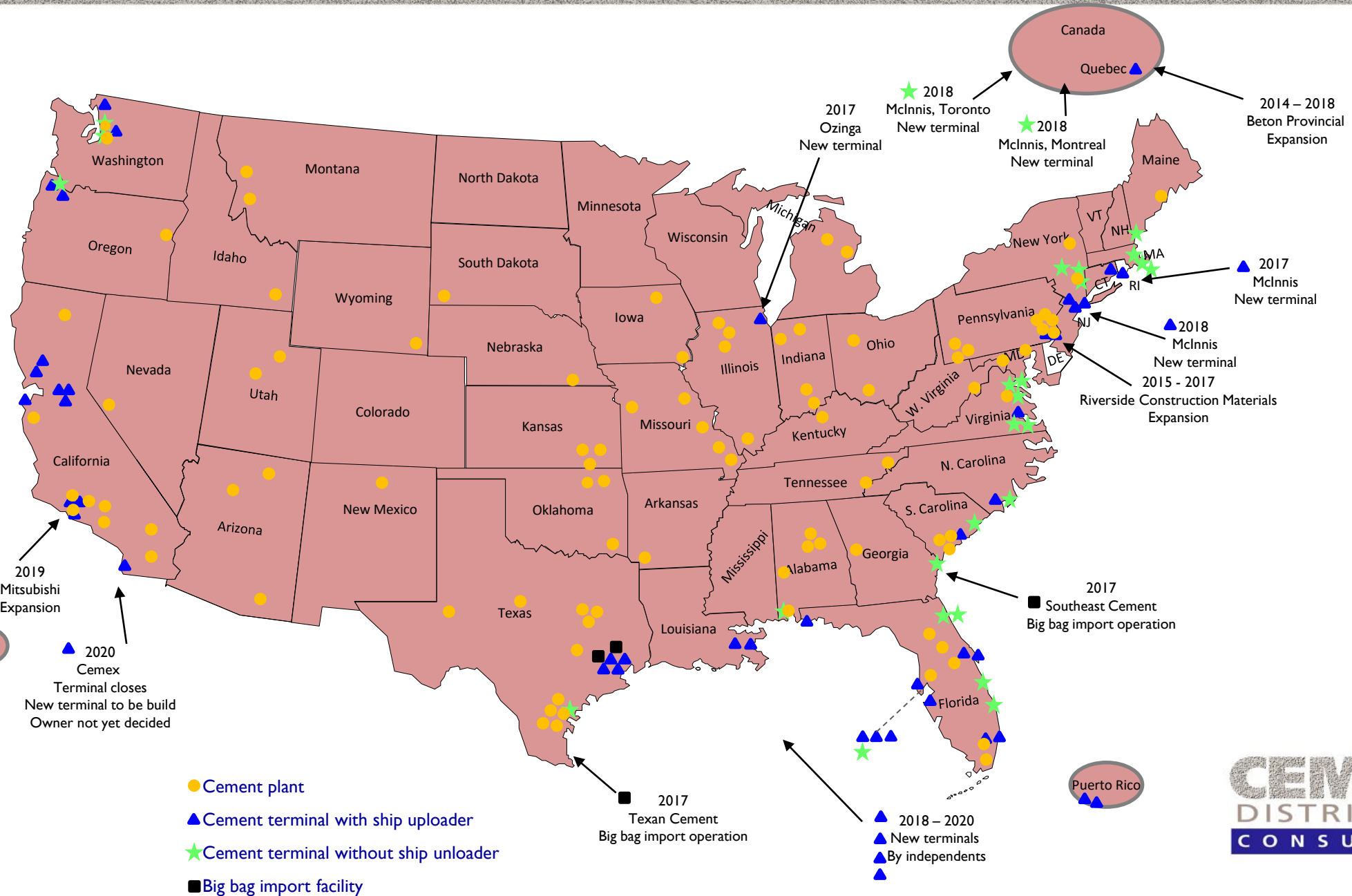
## A wave of new terminals

- 5) The expected growth in cost difference between shipping in Handymax and Supramax / Ultramax vessels means a growing incentive to expand current terminal facilities.
- 6) The current high margin between imported cement costs and local ex. works prices makes less than optimal import methods (such as in big bags) possible. As F.O.B. cement prices for cement meeting US requirements as well as shipping costs are expected to rise, such import operations will have to change to bulk import terminals over time.

What are the reasons for all this new terminal activity?

# Terminal projects 2014 - 2018

Alaska







The relationship between US cement plant and  
import terminal ownership

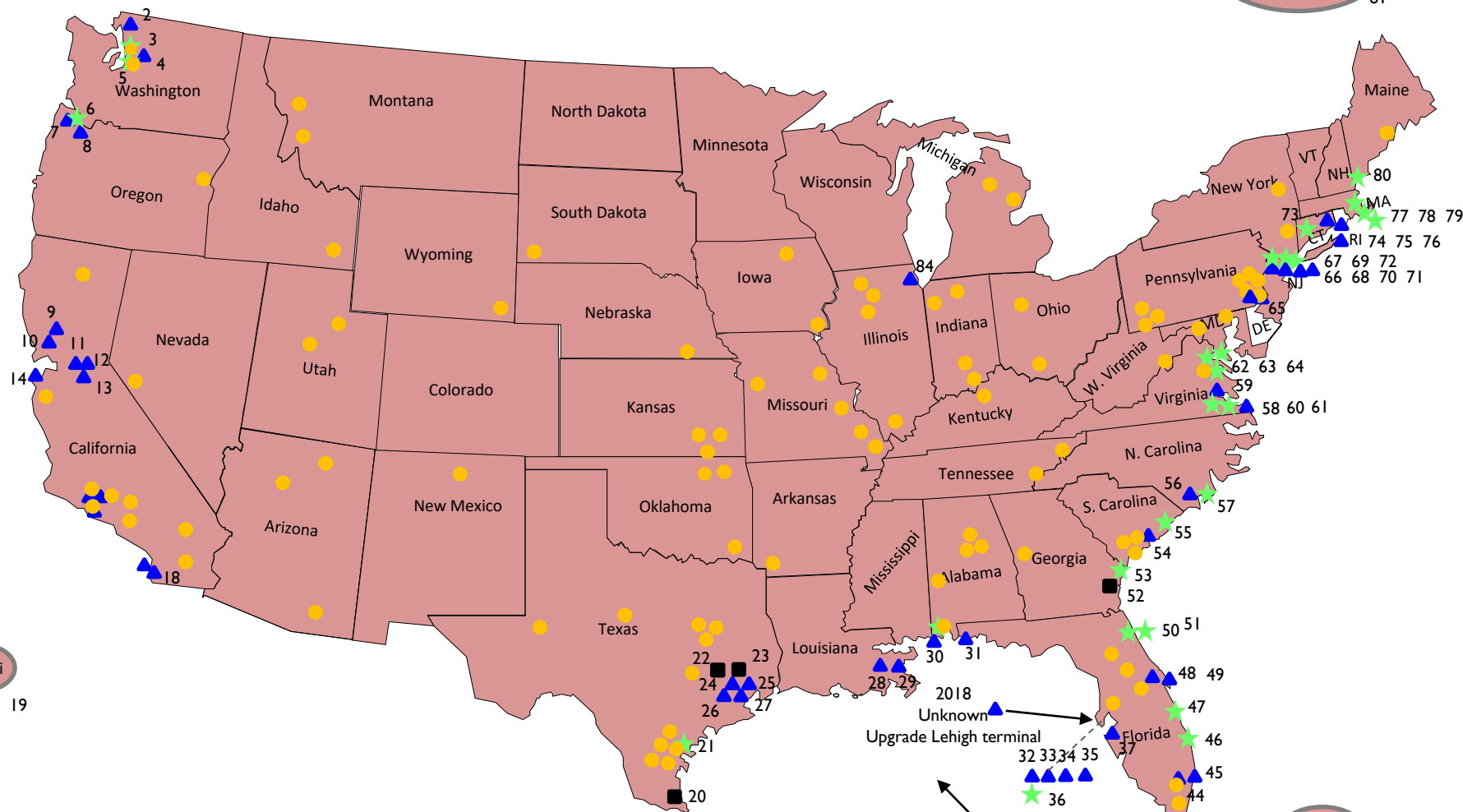
# Seaborne cement terminal ownership

Alaska  
1

Canada  
83  
82  
Quebec  
81

Hawaii  
19

Puerto Rico  
42  
43

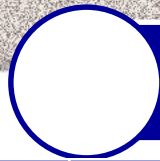


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# Ownership of seaborne cement terminals

No.	Location	Owner	Type	Remarks	No.	Location	Owner	Type	Remarks
1	Anchorage AL	CPC (Taiheiyō)	▲	Active	14	Redwood City CA	Cemex	▲	Not active
2	Everett WA	Lehigh (Heidelberg)	▲	Active	15	Los Angeles CA	CPC (Taiheiyō, Lehigh)	▲	Not active
3	Seattle WA	LafargeHolcim	★	Active, cement supply from LH Canada	16	Long Beach CA	Cemex	▲	Not active
4	Seattle WA	Lehigh (Heidelberg)	★	Active, cement supply from Lehigh Canada	17	Long Beach CA	Mitsubishi	▲	Not active, preparing for expansions
5	Seattle WA	CPC (Taiheiyō)	▲	Active	18	San Diego CA	Cemex	▲	Received some white cement shipments from Mexico
6	Vancouver WA	LafargeHolcim	★	Active, cement supply from LH Canada	19	Barbers Point HI	Hawaiian (Ind)	▲	Active
7	Portland OR	Ash Grove (CRH)	▲	Active	20	Brownsville TX	Texan Cement (Ind)	■	Active, started 2017
8	Portland OR	CPC (Taiheiyō)	▲	Active	21	Corpus Christi TX	Lehigh (Heidelberg)	★	Not active
9	Sacramento CA	Two Rivers (A&A, Lehigh)	▲	Active	22	Houston TX	Sesco (Ind)	■	Active, white + grey cement
10	Sacramento CA	Cemex	▲	Active	23	Houston TX	Royal White (Ind)	■	Active, white cement
11	Stockton CA	CPC (Taiheiyō)	▲	Active	24	Houston TX	Houston Cem. East (CRH, Lehigh, Buzzi)	▲	Active
12	Stockton CA	Sunshine (Lehigh)	▲	Closed	25	Houston TX	Houston Cem. West (CRH, Lehigh, Buzzi)	▲	Active
13	Stockton	Lehigh (Heidelberg)	▲	Active (GGBFS)	26	Houston TX	Cemex	▲	Active



# Ownership of seaborne cement terminals



No.	Location	Owner	Type	Remarks		No.	Location	Owner	Type	Remarks
27	Houston, TX	Argos	▲	Not active		44	Port Everglades FL	Lehigh (Heidelberg)	▲	Active
28	New Orleans LA	Buzzi	▲	Used for domestic distr.		45	Port Everglades FL	Cemex	▲	Active, white cement shipments from Mexico
29	Reserve LA	LafargeHolcim	▲	Used for domestic distr.		46	West Palm Beach FL	Cemex	▲	Not active
30	Mobile AL	Argos	▲	Active		47	Ft Pierce FL	Florida Sun (American)	▲	Not active
31	Pensacola FL	Cemex	▲	Not active		48	Port Canaveral FL	Cemex	▲	Not active
32	Tampa FL	Argos	▲	Not active, domestic supply by trucks		49	Port Canaveral FL	Lehigh (Heidelberg)	▲	Not Active
33	Tampa FL	Titan	▲	Active		50	Jacksonville FL	Lehigh (Heidelberg)	★	Not active (receives cement by road)
34	Tampa FL	Cemex	★	Active		51	Jacksonville FL	LafargeHolcim	★	Not active
35	Tampa Fl	Cementir	▲	Active, white cement		52	Savannah GA	Argos	★	Not active
36	Tampa FL	Unknown	?	Under construction		53	Savannah GA	Southeast (Ind)	■	Active, started 2017
37	Port Manatee FL	Eastern (American)	▲	Not active		54	Charleston SC	LafargeHolcim	▲	Not active
38	Gulf Area	Independent	▲	Expected 2018-2019		55	Georgetown SC	LafargeHolcim	★	Domestic use
39	Gulf Area	Independent	▲	Expected 2018-2019		56	Wilmington NC	Argos	★	Not active
40	Gulf Area	Independent	▲	Expected 2018-2019		57	Wilmington NC	Cemex	▲	Not active
41	Gulf Area	Independent	▲	Expected 2018-2019		58	Chesapeake VA	LafargeHolcim	★	Domestic use
42	San Juan PR	Argos	▲	Active		59	Chesapeake VA	Titan	▲	Active
43	San Juan PR	Cemex	▲	Not active		60	Norfolk VA	Lehigh (Heidelberg)	★	Domestic use

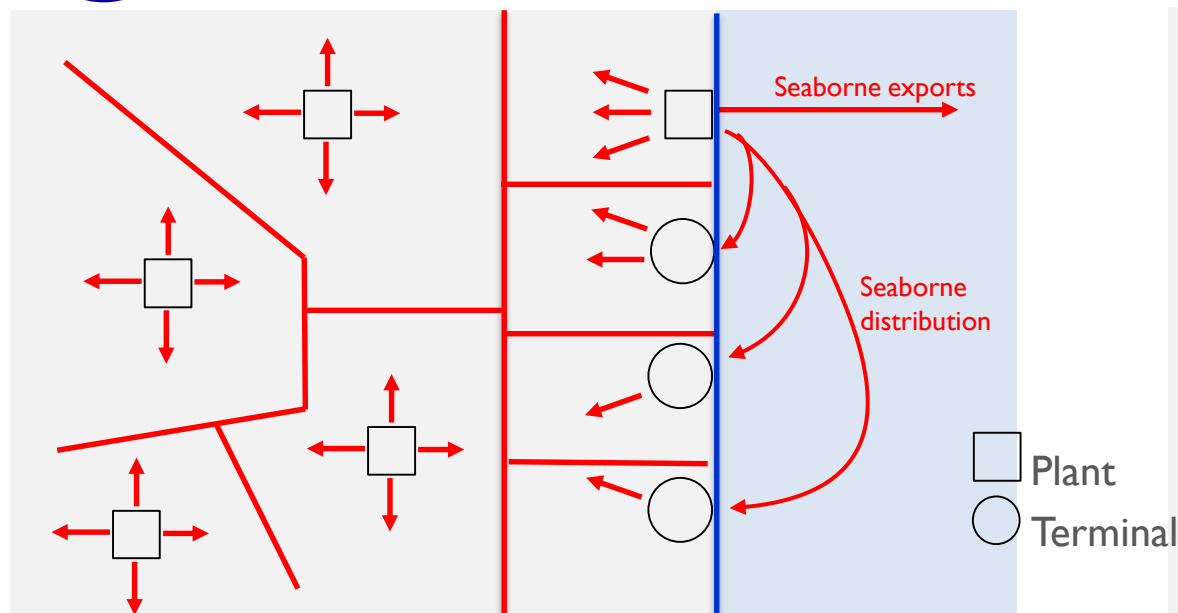


## Ownership of seaborne cement terminals

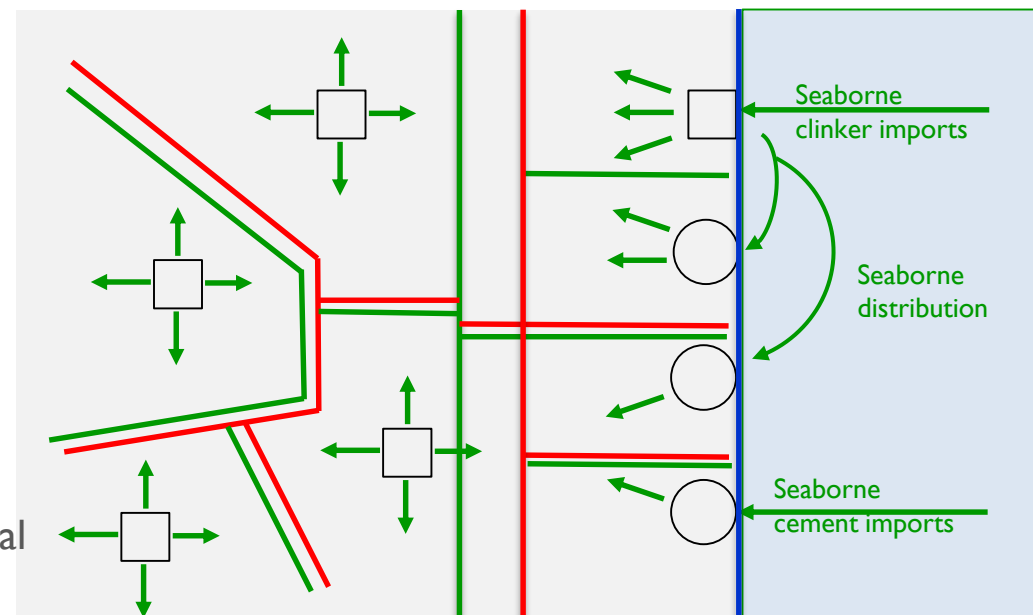
No.	Location	Owner	Type	Remarks	No.	Location	Owner	Type	Remarks
61	Newport News VA	Pier X (Lehigh)	▲	Active	73	New Haven CT	LafargeHolcim	★	Domestic
62	Baltimore Md	LafargeHolcim 1	★	Domestic	74	Providence RI	LafargeHolcim	▲	Active
63	Baltimore MD	LafargeHolcim 2	★	Domestic	75	Providence RI	Lehigh	▲	Active
64	Baltimore MD	Lehigh	★	Domestic	76	Providence RI	McInnis (Ind)	▲	Active
65	Bristol PA	Riverside (Ind)	▲	Active	77	Boston MA	LafargeHolcim	★	Domestic + Canada
66	Newark NJ	Titan	▲	Active	78	Boston MA	Lehigh	★	Domestic
67	Brooklyn NY	LafargeHolcim	★	Domestic	79	Boston MA	Dragon	★	Domestic
68	Brooklyn NY	Lehigh	▲	Active	80	Newington NH	Dragon	★	Domestic
69	Bayonne NJ	LafargeHolcim	★	Domestic	81	Quebec QC	Beton Provincial (Ind)	▲	Active
70	Brooklyn NY	NYC (Ind)	▲	Domestic	82	St. Catharine QC	McInnis (Ind)	★	Domestic
71	Bronx NY	McInnis (Ind)	▲	Under construction	83	Oshawa ON	McInnis (Ind)	★	Domestic
72	Queens NY	LafargeHolcim	★	Domestic	84	Chicago IL	Chicago (Ind)	▲	Active (via New Orleans, slag)

Note: (Ind) = Independent = No cement production facility in US

## The very large importance of networks



Market areas and cement flows in over supply situation.



Market areas and cement flows in a shortage situation.

The ownership of cement terminals matters a lot. Cement terminals work best in a network with cement plants and allow plants to have maximum possible utilisation in both surplus and shortage periods and to keep market share.



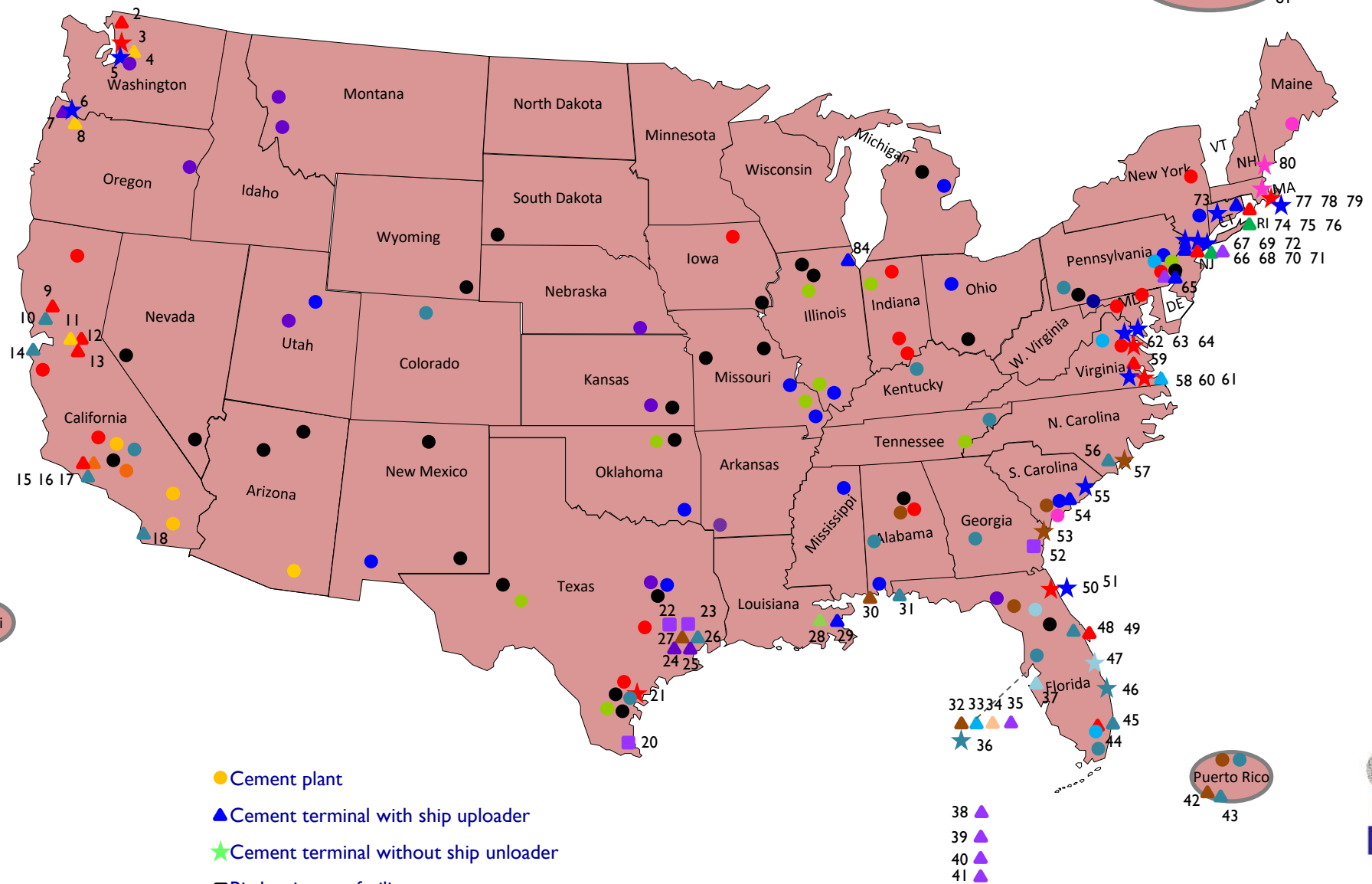
# Cement plant and sea terminal ownership

Alaska  
1

Hawaii  
19

Canada  
83  
82  
Quebec 81

Puerto Rico  
42  
43

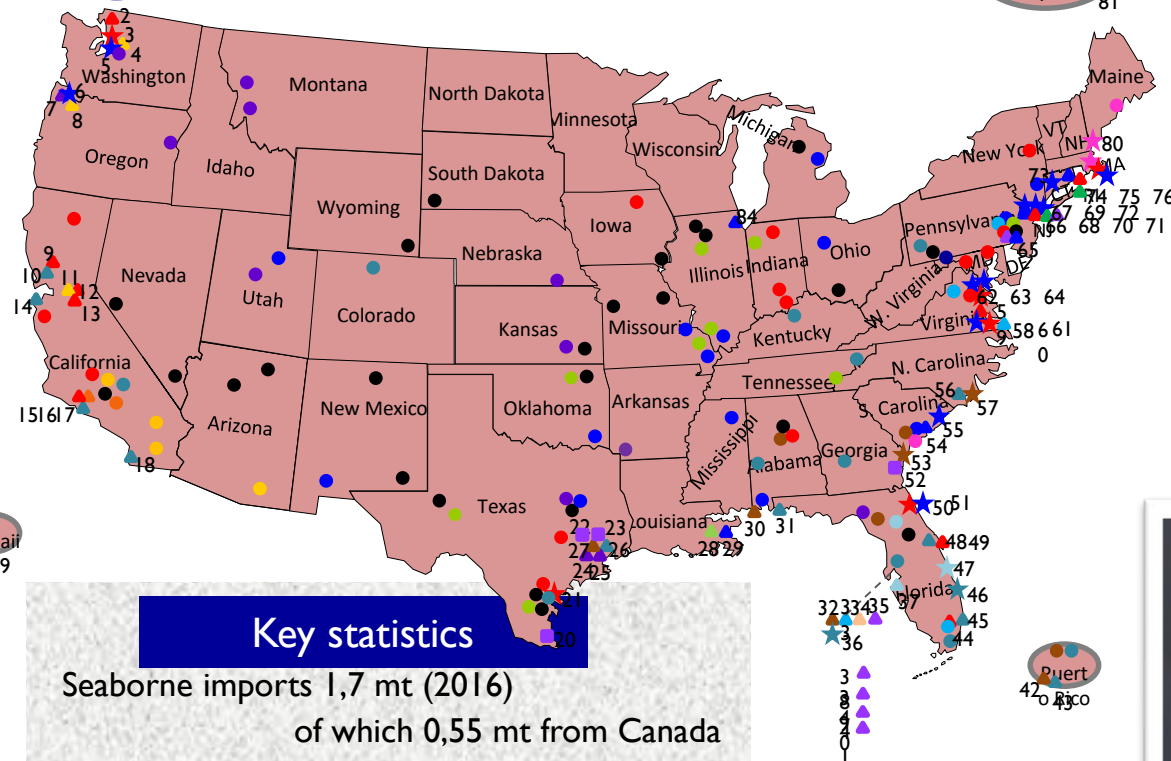


- Cement plant
- ▲ Cement terminal with ship uploader
- ★ Cement terminal without ship uploader
- Big bag import facility

- LafargeHolcim
- Lehigh (Heidelberg)
- Cemex
- CRH (incl. Ash Grove)
- Argos
- Buzzi Unicem
- Titan
- CPC (Taiheiyō)
- Mitsubishi
- American
- Giant
- McInnis
- Independents
- cement terminals

**CEMENT**  
DISTRIBUTION  
CONSULTANTS

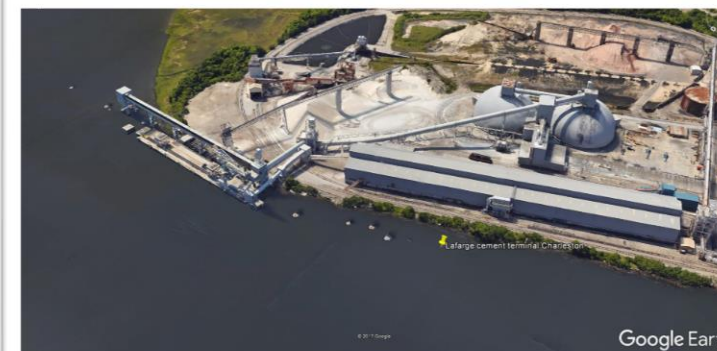
## Cement producers with sea terminals



### Key statistics

Seaborne imports 1,7 mt (2016)	
of which 0,55 mt from Canada	
Sea terminals with a ship unloader (imports) 3	
Sea terminals without a ship unloader	
- importing	3
- domestic distribution	9
Great Lakes terminals	17
Big River terminals	98
US cement plants	13

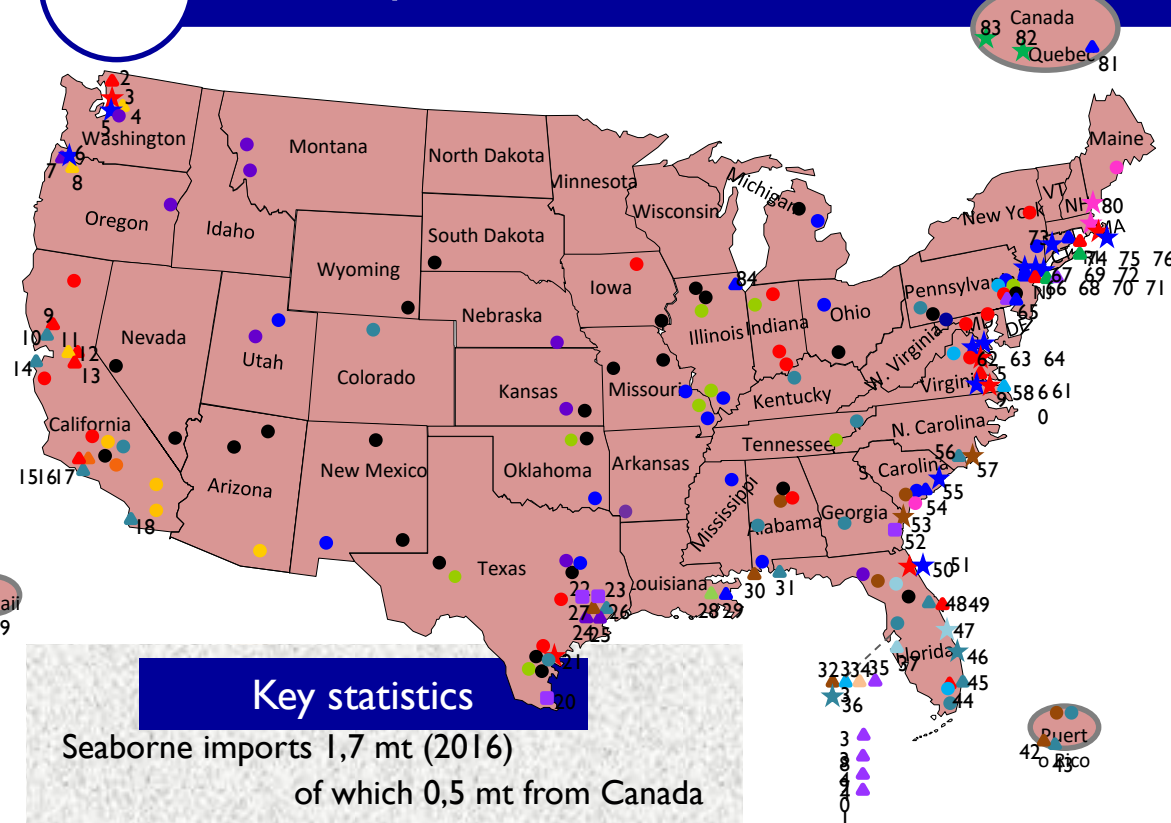
LafargeHolcim has an extensive seaborne distribution and import terminal network consisting of a distribution system in the Northwest bringing in cement from Canada, a distribution system in the Northeast for slag and cement and import terminals on the East Coast and Mississippi. It also has distribution systems on the Great Lakes and the Big Rivers. The seaborne import figure of 2016 was a bit inflated as it included 0,75 mt clinker for the Ravenna plant during its modification.



Google Earth



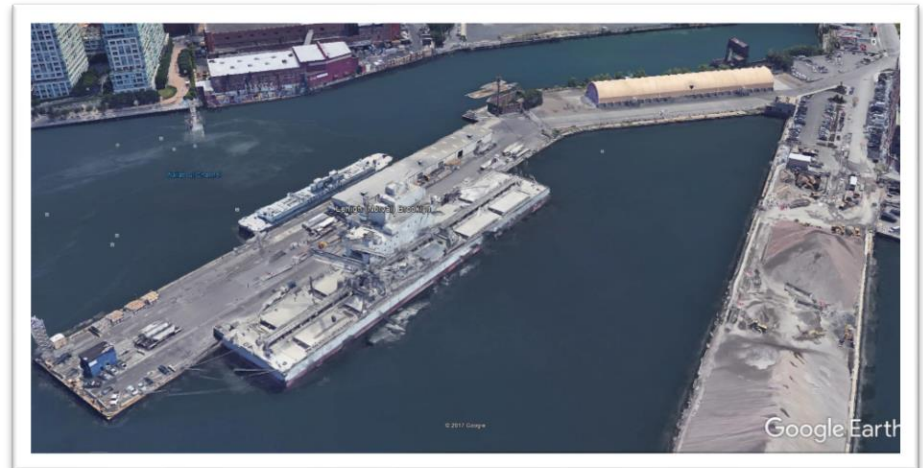
## Cement producers with sea terminals



### Key statistics

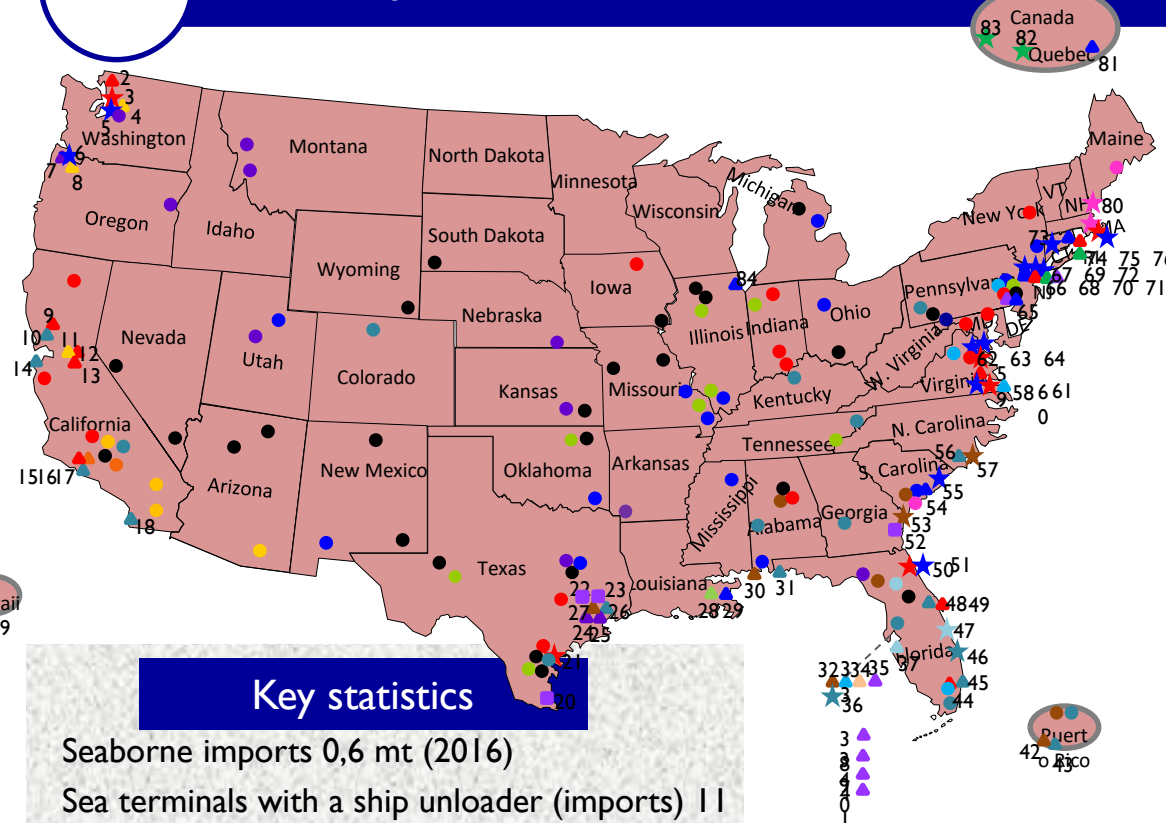
Seaborne imports 1,7 mt (2016)	
of which 0,5 mt from Canada	
Sea terminals with a ship unloader (imports)	12
Sea terminals without a ship unloader	
- importing	2
- domestic distribution	4
Great Lakes terminals	5
Big River terminals	30
US cement plants	13

Lehigh has also a substantial seaborne distribution and import facility network consisting of a distribution network in the northwest importing cement from Canada, a slag and cement domestic distribution system in the Northeast and an impressive number of import terminals on all coasts. Lehigh also has distribution networks on the Great Lakes and the Big Rivers.





## Cement producers with sea terminals



Cemex has a large number of seaborne import terminals focussed on the Southwest, Southeast and Gulf coasts. Quite a few of these terminals are still inactive. Cemex also has a distribution network on the Big Rivers.

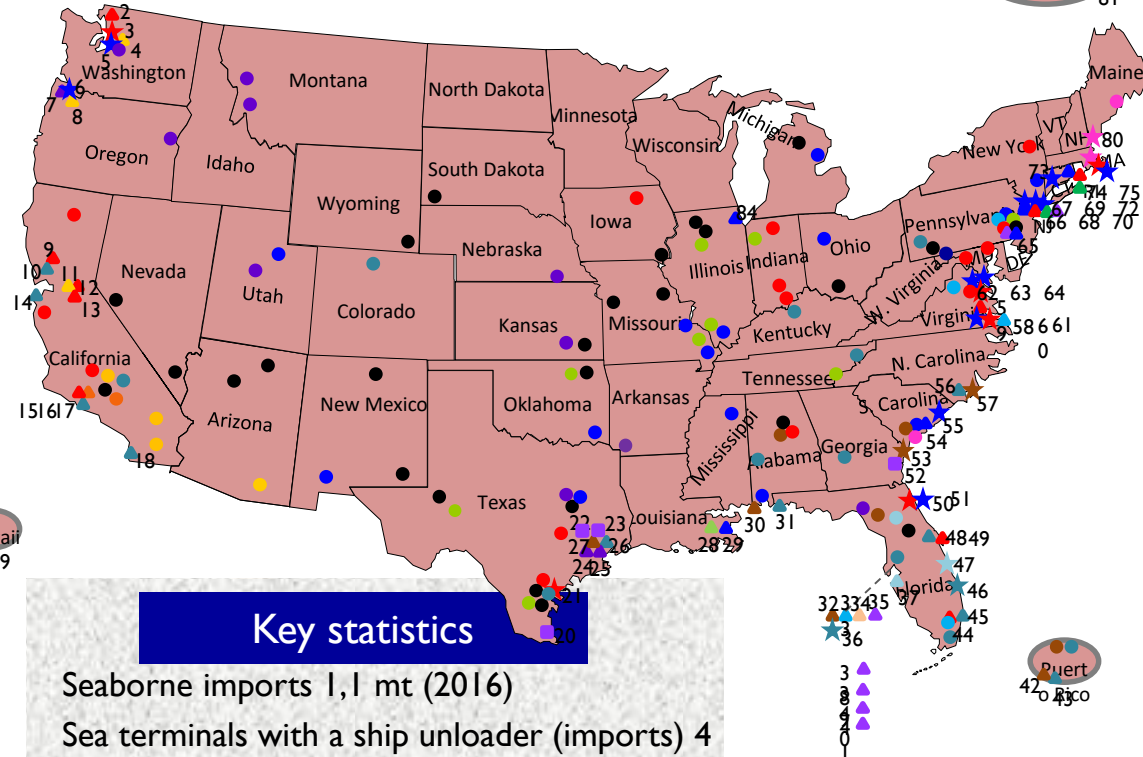


### Key statistics

Seaborne imports 0,6 mt (2016)	
Sea terminals with a ship unloader (imports) 11	
Sea terminals without a ship unloader	
- importing	1
- domestic distribution	0
Great Lakes terminals	0
Big River terminals	33
US cement plants	10



## Cement producers with sea terminals



### Key statistics

Seaborne imports 1,1 mt (2016)

Sea terminals with a ship unloader (imports) 4

Sea terminals without a ship unloader

- importing 0

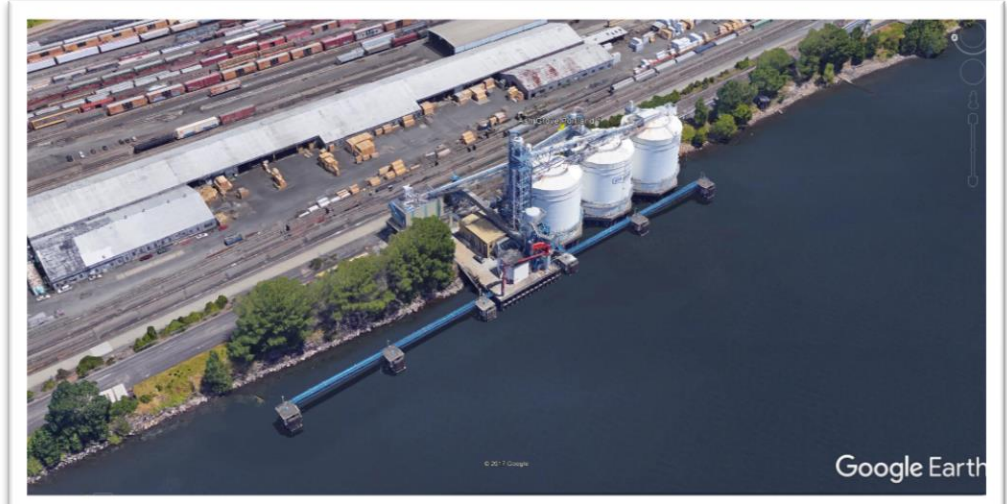
- domestic distribution 0

Great Lakes terminals 2

Big River terminals 0

US cement plants 10

CRH (incl. Ash Grove) has four large seaborne import terminals that support its cement plants very well. It also has a small distribution network on the Great Lakes to supply its ready mix assets in the US Great Lakes region. One of the Great Lakes terminals has been used for a trial with seaborne imports in 2016. The recently acquired cement plant in Florida still stands very much alone.

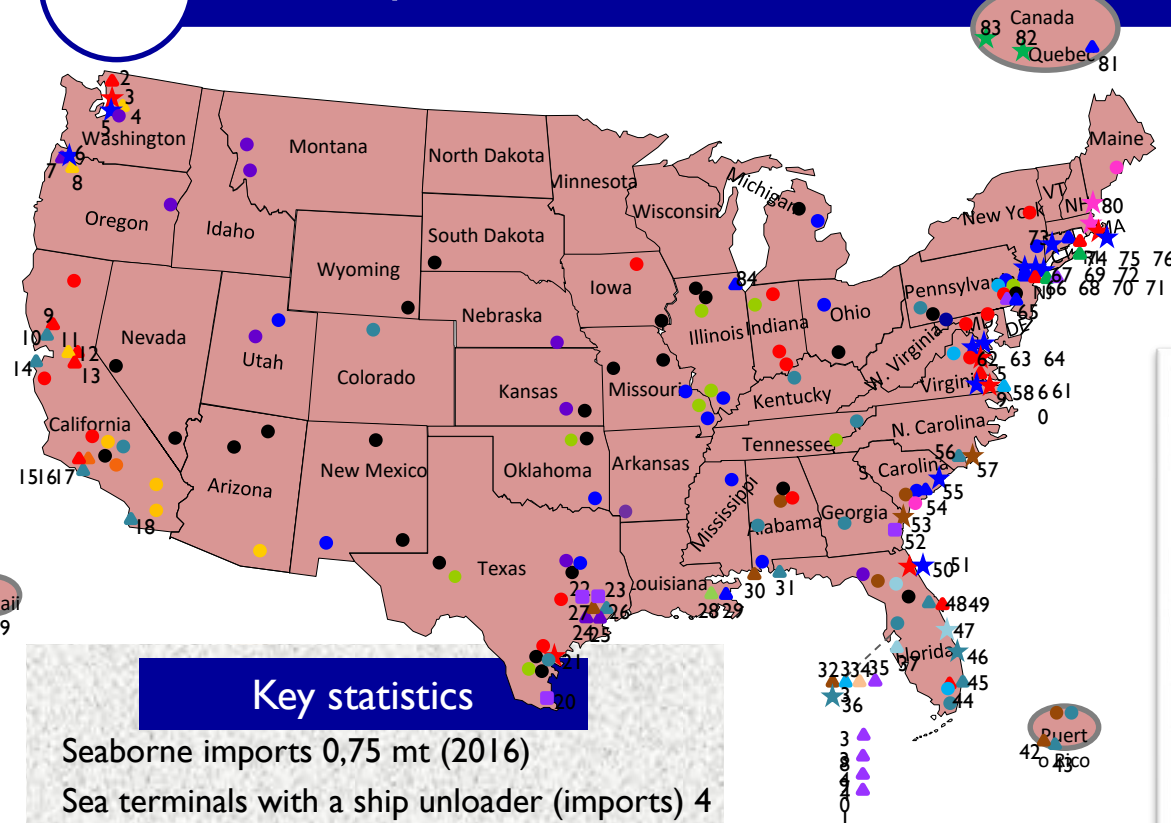


Google Earth

**CEMENT**  
DISTRIBUTION  
CONSULTANTS



## Cement producers with sea terminals



### Key statistics

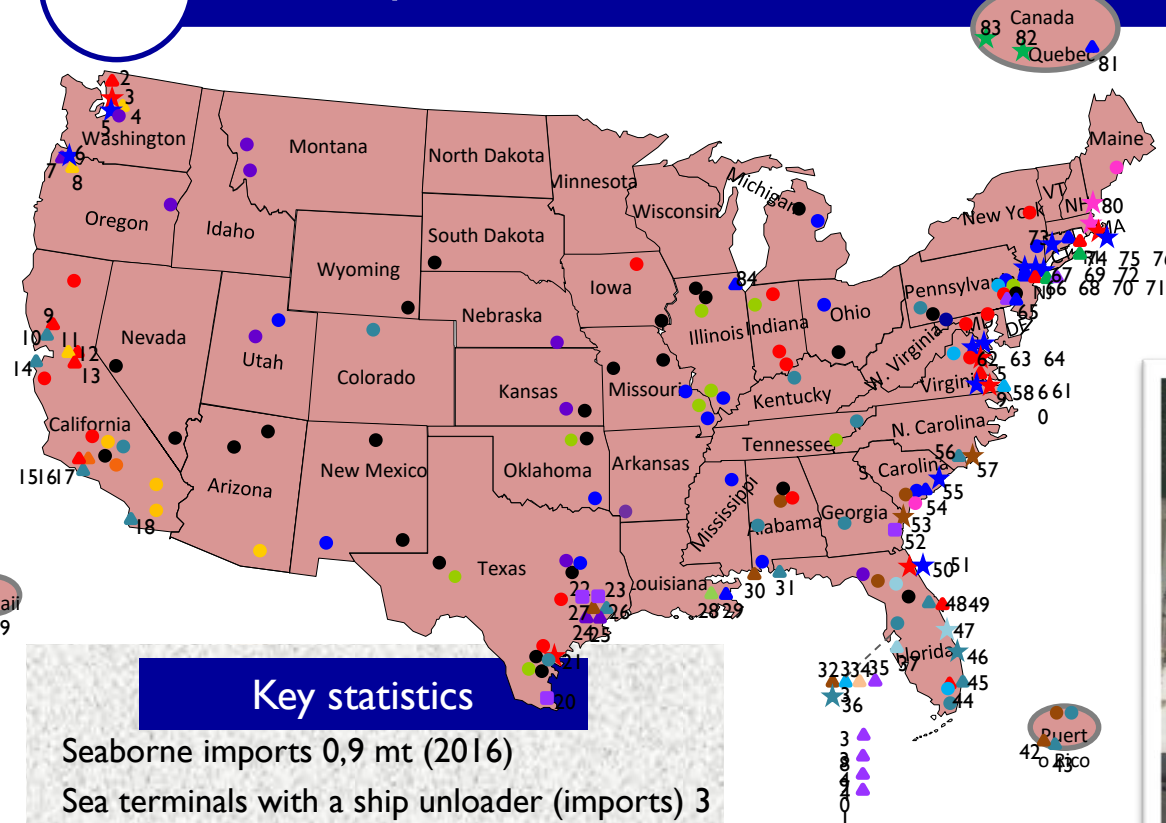
Seaborne imports	0,75 mt (2016)
Sea terminals with a ship unloader (imports)	4
Sea terminals without a ship unloader	
- importing	2
- domestic distribution	0
Great Lakes terminals	0
Big River terminals	0
US cement plants	4

Argos has a network focussed on the Gulf and Southeast coasts. It has six import terminals going back to the days that it did not have cement plants in the US. These terminals are now mostly inactive.





## Cement producers with sea terminals



### Key statistics

Seaborne imports 0,9 mt (2016)

Sea terminals with a ship unloader (imports) 3

Sea terminals without a ship unloader

- importing 0

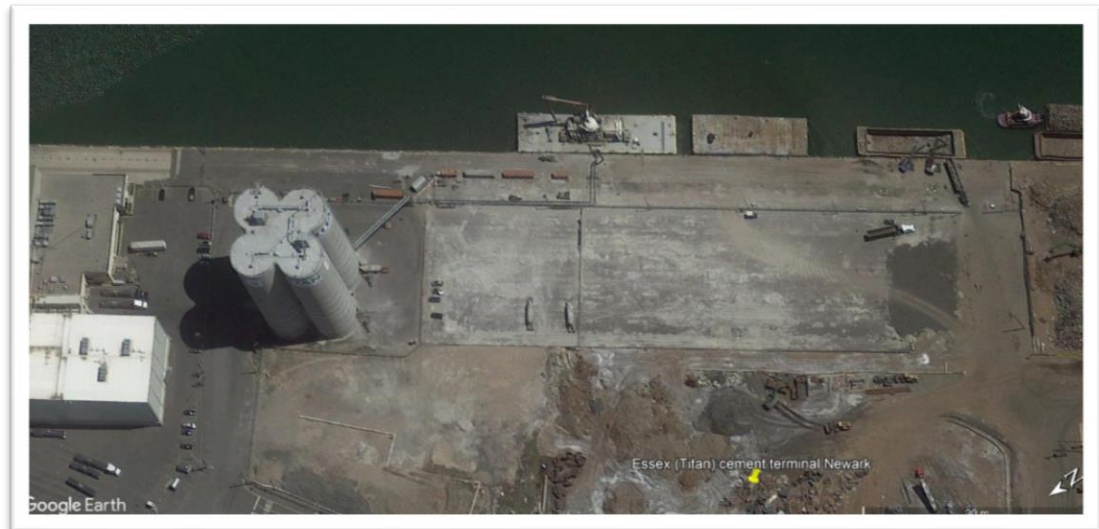
- domestic distribution 0

Great Lakes terminals 0

Big River terminals 0

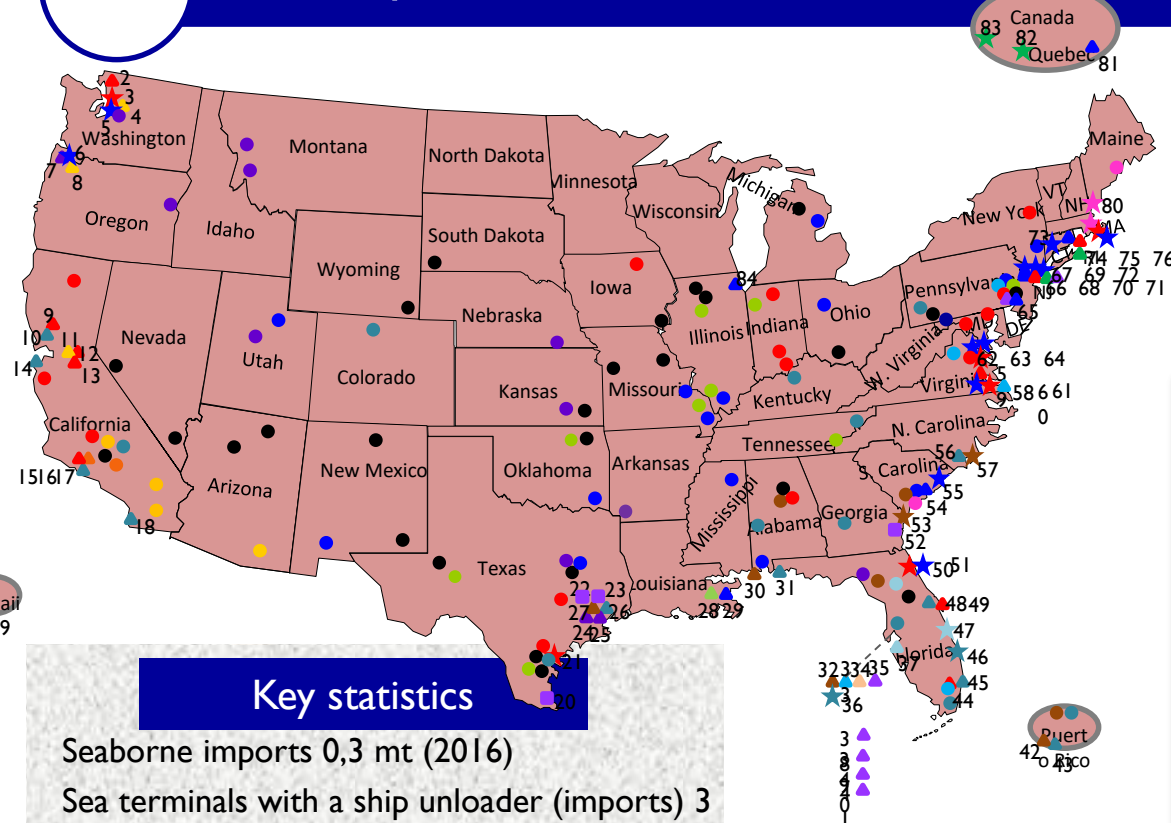
US cement plants 2

Titan has a two cement plants and three large import terminals on the US east coast between New York and Florida. Although this is a small network Titan is within the top five cement importers.





## Cement producers with sea terminals



### Key statistics

Seaborne imports 0,3 mt (2016)

Sea terminals with a ship unloader (imports) 3

Sea terminals without a ship unloader

- importing 0

- domestic distribution 0

Great Lakes terminals 0

Big River terminals 30

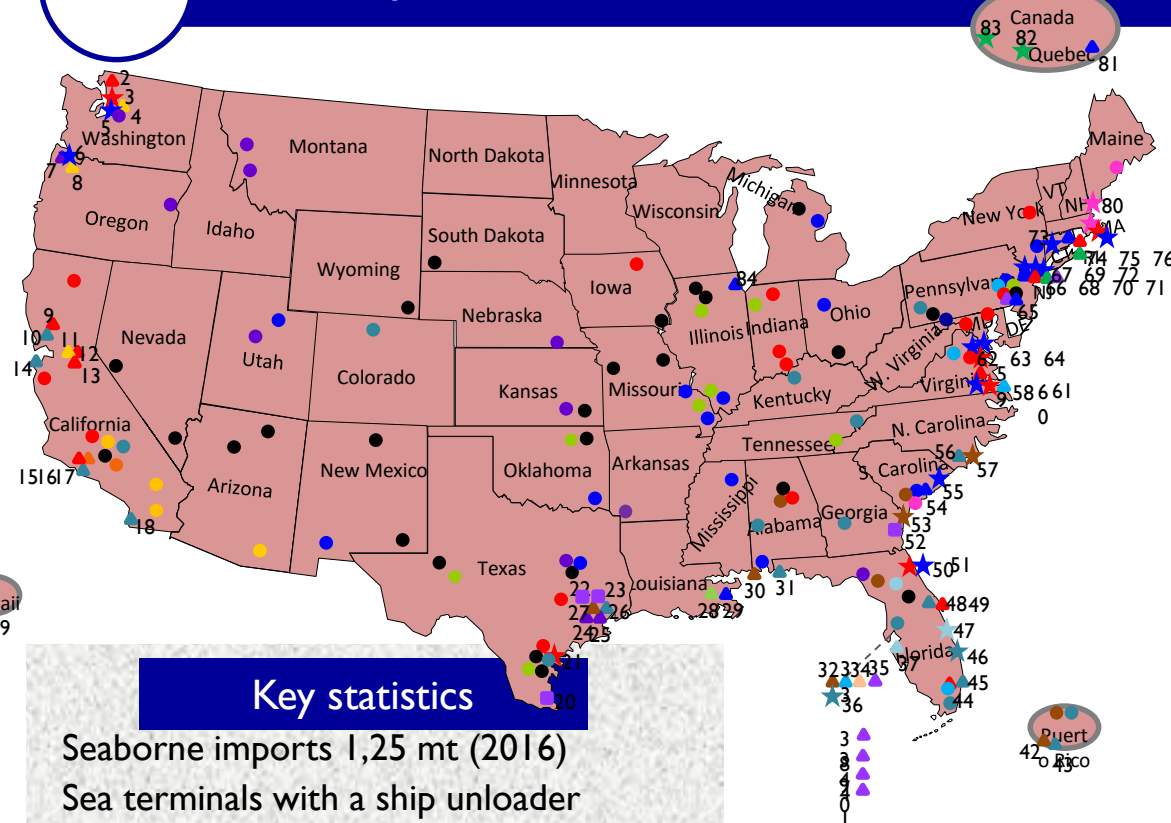
US cement plants 7

Buzzi Unicem has an import terminal in New Orleans and a share in the two terminals of Houston cement. It has a distribution network on the Big Rivers





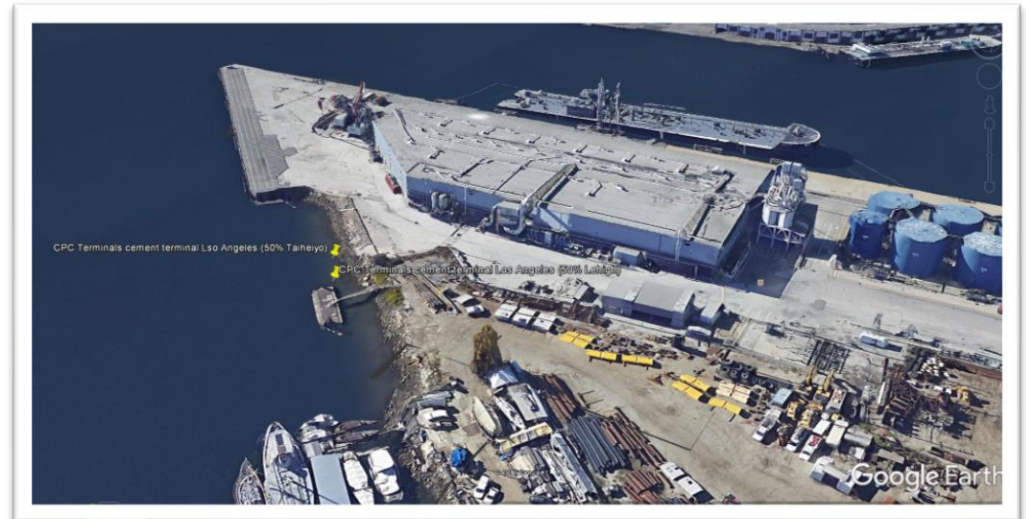
## Cement producers with sea terminals



### Key statistics

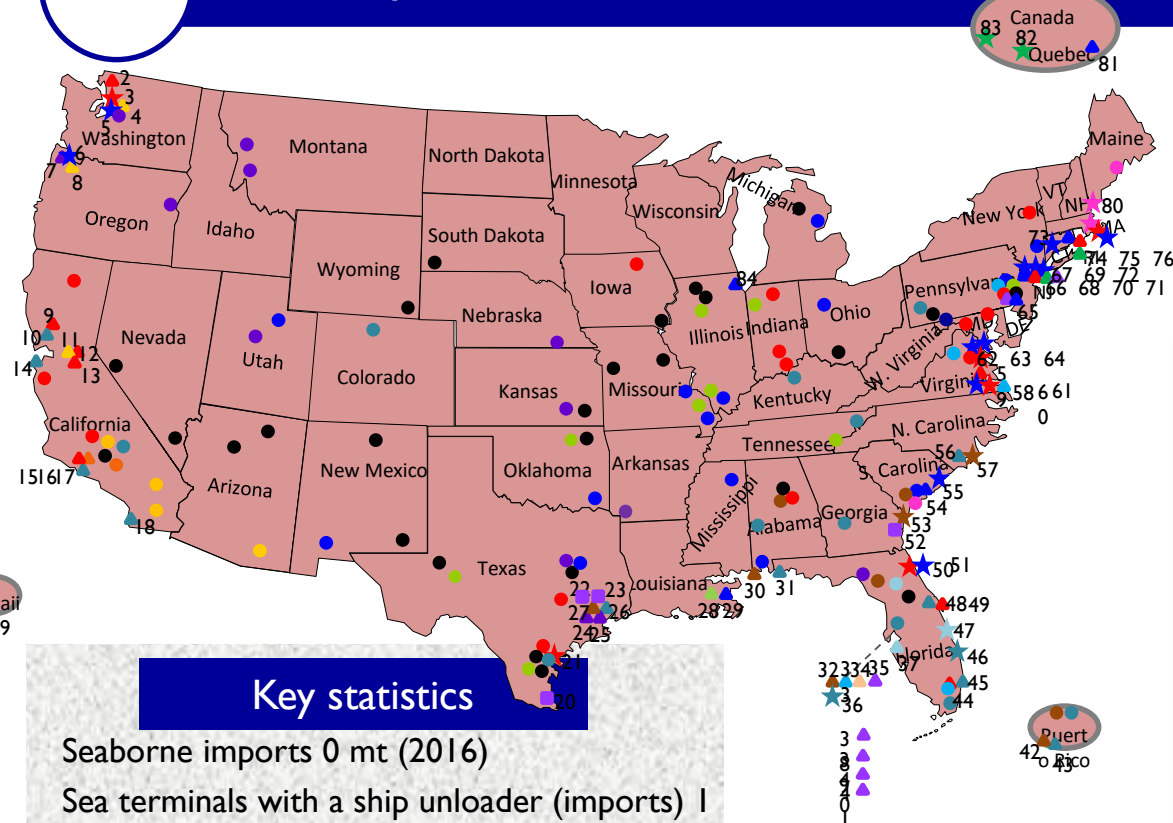
Seaborne imports	1,25 mt (2016)
Sea terminals with a ship unloader (imports)	5
Sea terminals without a ship unloader	
- importing	0
- domestic distribution	0
Great Lakes terminals	0
Big River terminals	0
US cement plants	2

CPC (Taiheiyo) has five import terminals all along the Westcoast and 2 cement plants in California. The terminals support its plants and ready-mix assets very well.





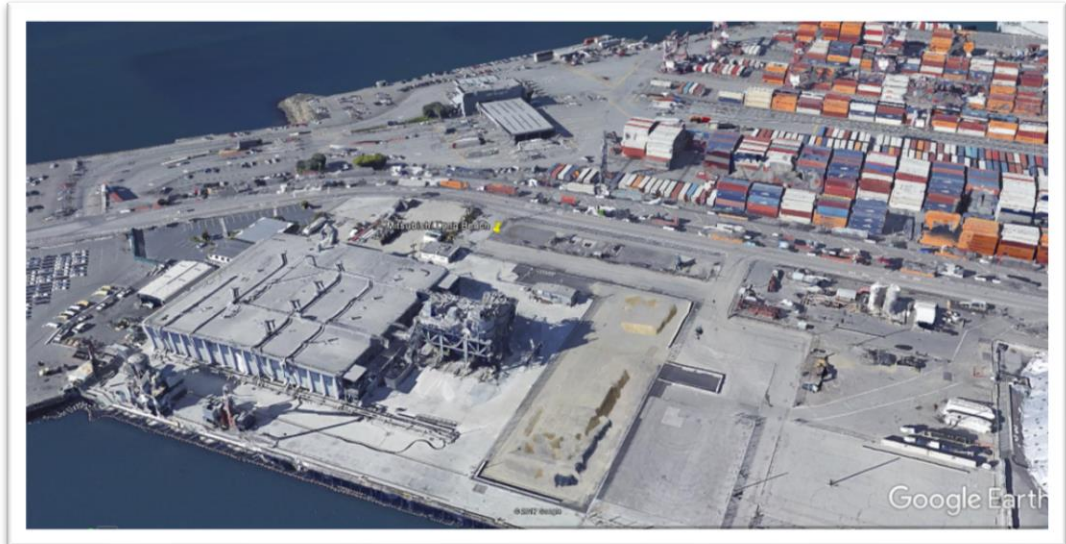
## Cement producers with sea terminals



### Key statistics

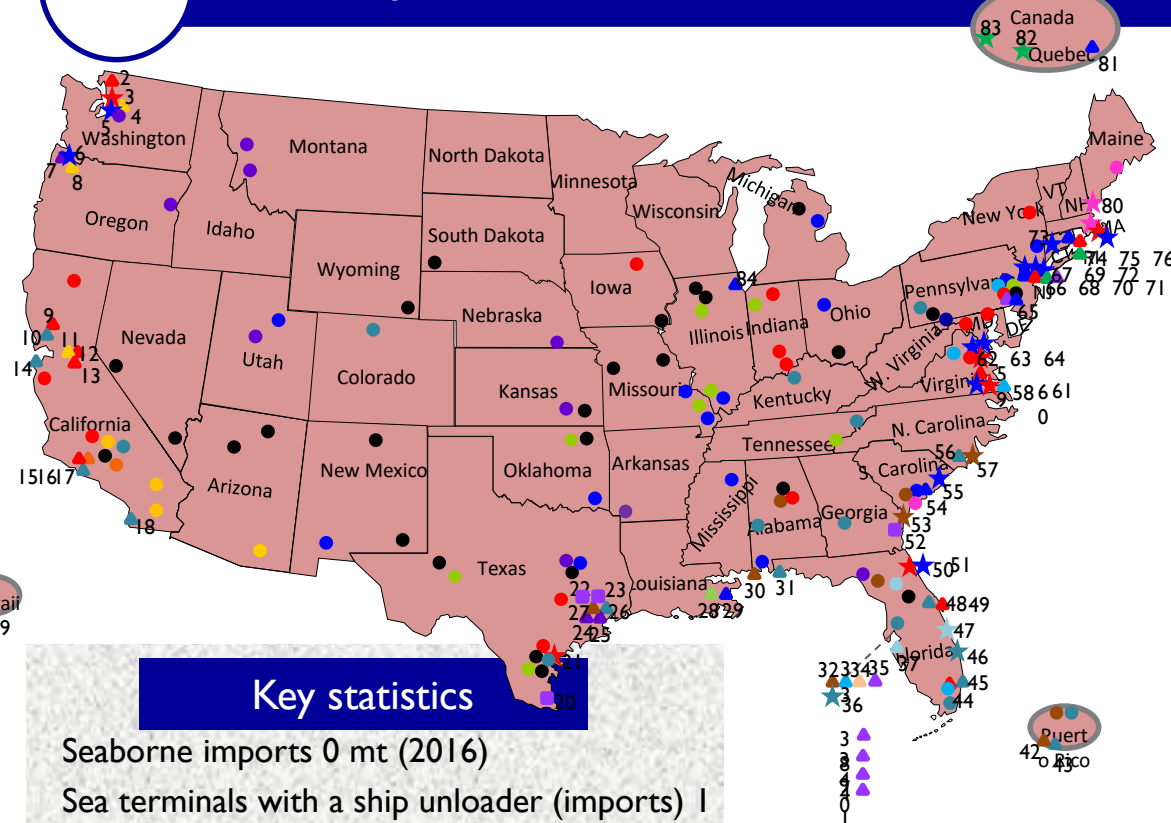
Seaborne imports	0 mt (2016)
Sea terminals with a ship unloader (imports)	1
Sea terminals without a ship unloader	
- importing	0
- domestic distribution	0
Great Lakes terminals	0
Big River terminals	0
US cement plants	1

Mitsubishi has a large cement import terminal and one cement plant in California. The terminal is still not active but a substantial upgrade of the terminal has been planned.





## Cement producers with sea terminals



### Key statistics

Seaborne imports 0 mt (2016)

Sea terminals with a ship unloader (imports) 1

Sea terminals without a ship unloader

- importing 1
- domestic distribution 0

Great Lakes terminals 0

Big River terminals 0

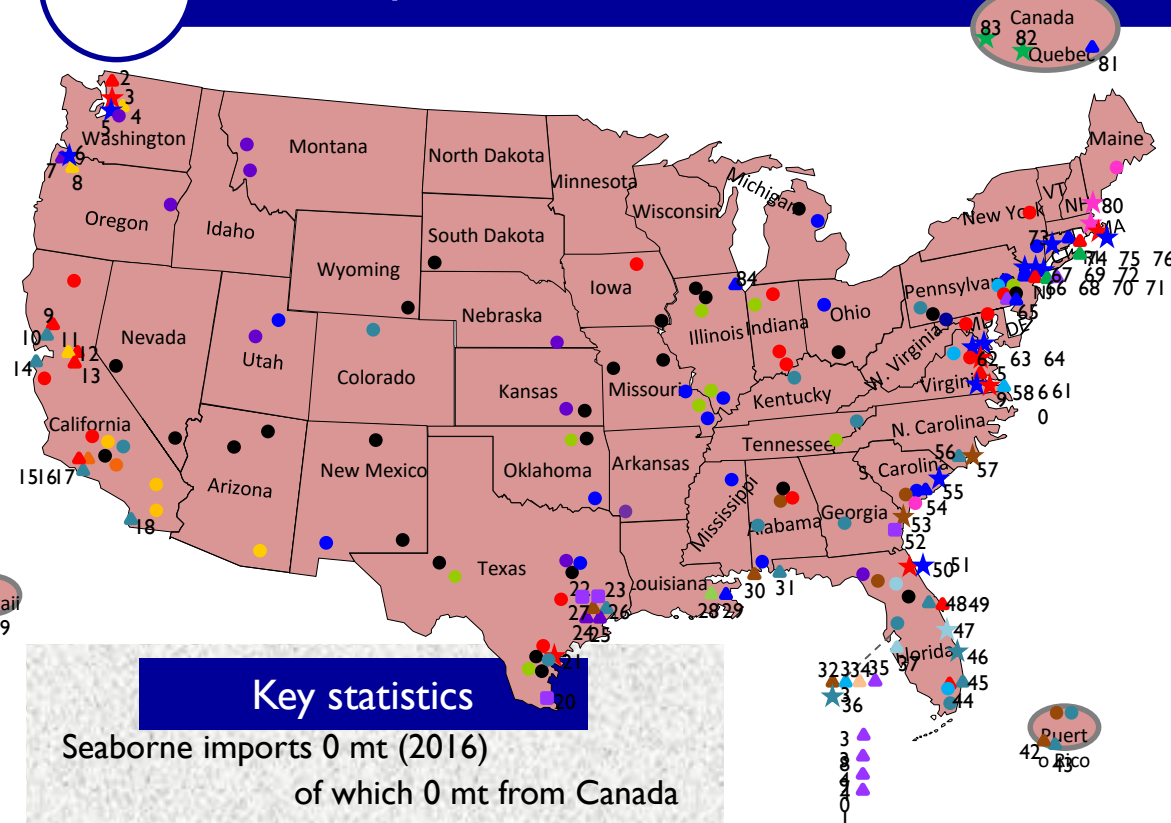
US cement plants 1

American has one cement plant and two import terminals in Florida. Both terminals are still not active.





## Cement producers with sea terminals



### Key statistics

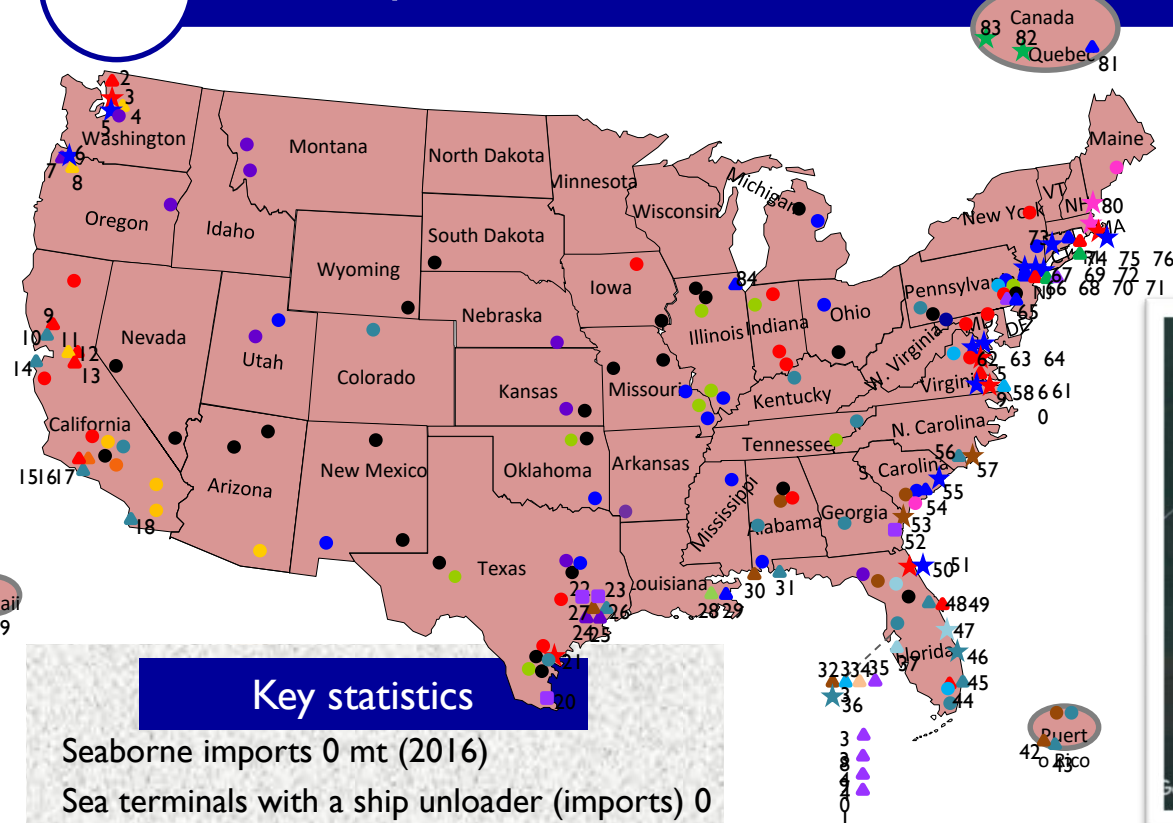
Seaborne imports 0 mt (2016)	
of which 0 mt from Canada	
Sea terminals with a ship unloader (imports) 2	
Sea terminals without a ship unloader	
- importing	0
- domestic distribution	1
Great Lakes terminals	1
Big River terminals	0
US cement plants	0

McInnis has one operating import terminal in the US and one under construction supplied from its cement plant on the Canadian East coast. It has two terminals in Canada.





## Cement producers with sea terminals



### Key statistics

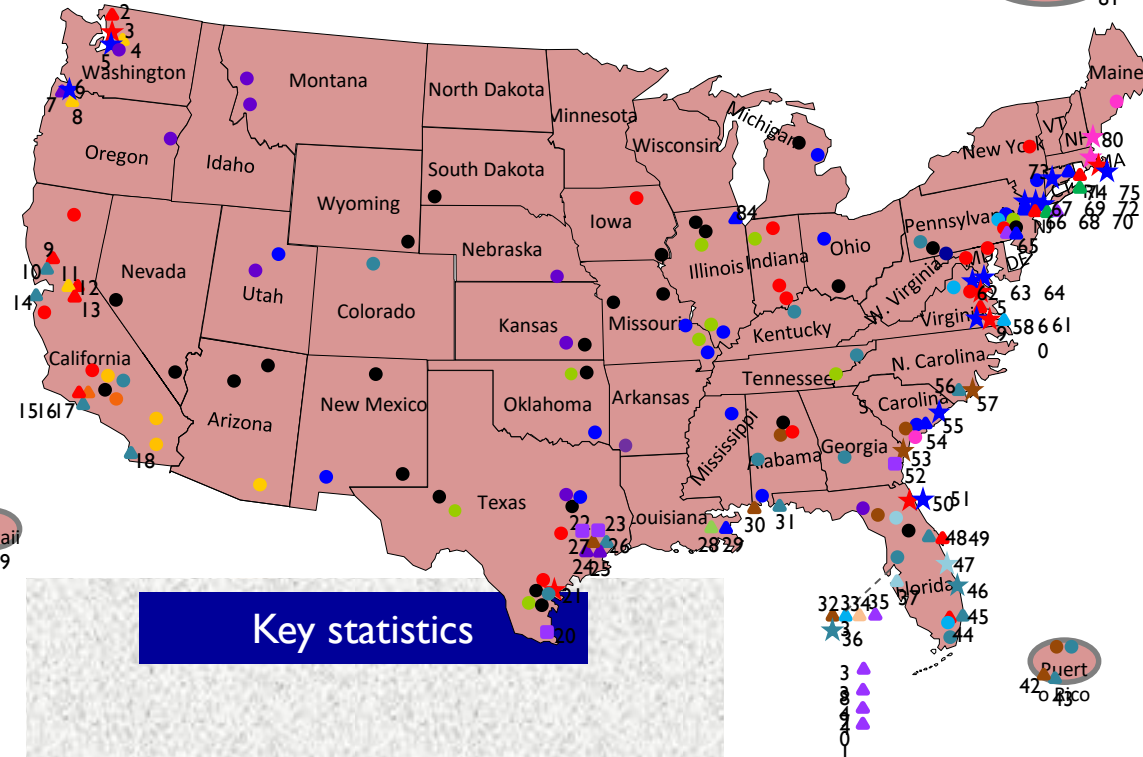
Seaborne imports 0 mt (2016)	
Sea terminals with a ship unloader (imports) 0	
Sea terminals without a ship unloader	
- importing	0
- domestic distribution	2
Great Lakes terminals	0
Big River terminals	0
US cement plants	3

Giant has two terminals for domestic sea distribution and three plants but lacks seaborne import capability.





## Independent importers



### Key statistics

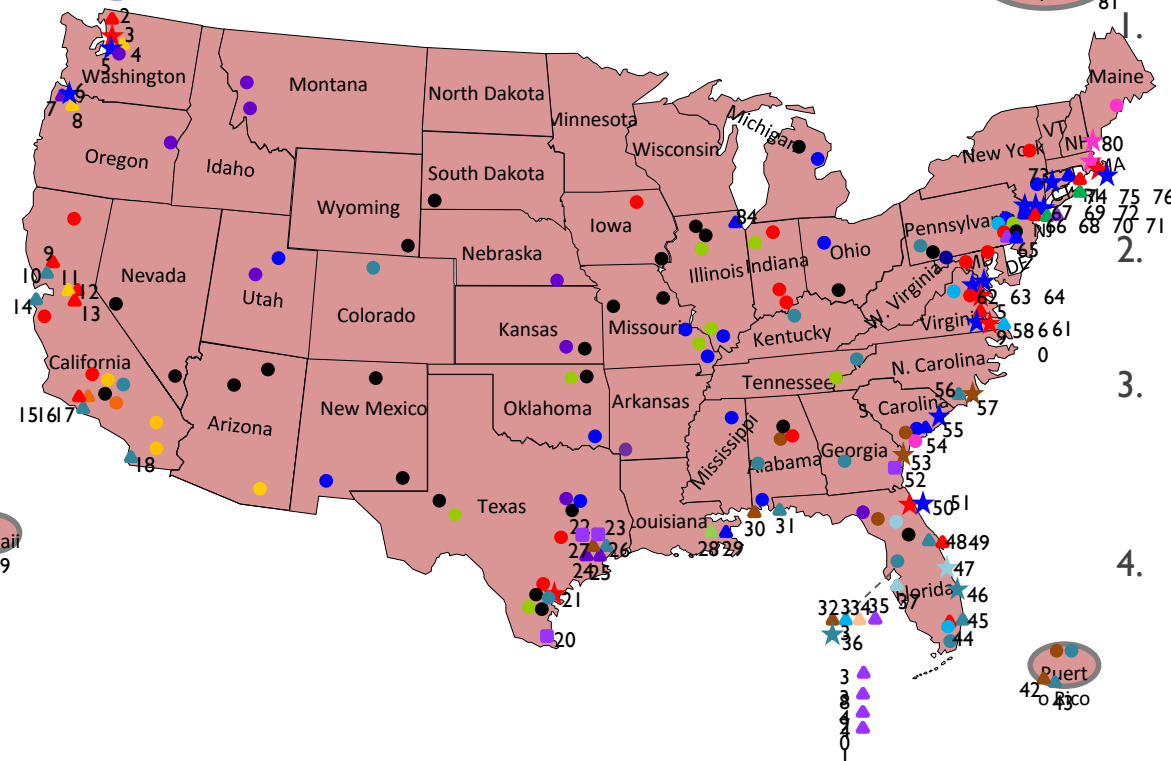
Seaborne imports 1,15 mt (2016)

### Independents

1. Hawaiian Cement has one import terminal and four distribution terminals and is the only importer in Hawaii.
2. Two Rivers terminal in Sacramento is 50% owned by A&A and 50% by Lehigh.
3. Riverside Construction Materials (owned by the Silvi Group) owns the largest terminal in the US (170,000 tons of storage) and can handle two different types of cement and a cementitious material.
4. NYC (Quadrozzi) has a small floating terminal in Brooklyn, NYC that receives its cement from domestic sources.
5. Beton Provincial has a very large terminals in Quebec which receives several types of cement as well as cementitious material. The terminal has its own blending plant.
6. Chicago Cement (Ozinga) has a large river terminal in Chicago. It imports slag in large bulkcarriers that is transhipped in barges in the new Orleans area.
7. There are four big bag import operations with the potential to upgrade to bulk import terminals.
8. There are four new independent terminals under consideration, mainly in the Gulf area.



## Cement producers without sea terminals



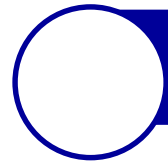
### US cement producers without terminals for seaborne cement

1. Continental has two cement plants on the Big Rivers and a corresponding terminal network. It has recently imported cement by brining a large bulk carrier to the new Orleans area and transshipping the material into barges.
2. St. Mary's has an extensive network on the Great Lakes and can import more cement from Canada when needed.
3. CCC has several plants in Southcentral US with a rail network to distribute it. It imports cement by rail from its plants in Mexico and can expand on that.
4. Eagle has a substantial number of cement plants in the Midwest plus a small terminal network (for slag) on the Big Rivers. Given its size and location Eagle should be interested in import capability on the Big Rivers and / or the Westcoast.
5. Martin Marietta, National, Drake Armstrong, Capital, Royal and Summer have standalone cement plants. Some of these are in a location where the addition of seaborne import capability might be of interest.



Final considerations

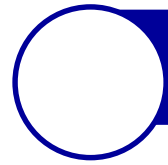




## Final considerations

Will all this independent terminal activity have an impact on US cement production and/or the market share of US cement producers?

- 1) It is highly unlikely that US cement production will be affected as current and new independents look sufficiently disciplined to operate within the "shortage volume" that needs to be imported anyway.
- 2) The new independent terminal activity will increase the market share area of the independents somewhat on a short-term basis but this is only on a percentage basis. With imports growing as currently forecasted absolute volumes will grow for everybody. On a long-term basis it is good to remember that of the 46 import terminals with a ship unloader that existed in 2014, 19 (41%) had started as an independent facility but only "1,5" independent facilities had remained on the US mainland. It can be expected that at least a part of the new terminals will be absorbed into US producer groups (in line with existing market share).



## Final considerations

Will all this independent terminal activity have an impact on the shipping of cement to the US?

- 1) With US cement consumption growing as forecasted, US seaborne imports of cement are set to double in the next 3 years and might be back to pre-crisis levels in 6-8 years.
- 2) There is a wide range in ship sizes that the new and expanded terminals are based on. But about half of these projects are based on Supramax/Ultramax vessels which is a significant improvement compared to the capabilities of the existing facilities.
- 3) There will be a significant growth in imports of cementitious materials. The new facilities for a large part will be able to handle multiple products.
- 4) The growing cost difference between shipping by Handymax and Supramax/Ultramax vessels will stimulate expansion of existing terminal facilities in the coming years.



# THANK YOU



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