



## Media Release

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Holcim continues to  
investigate future  
manufacturing options



Holcim (New Zealand) Ltd continues to investigate manufacturing options to ensure it can meet long-term growth in demand for cement in New Zealand.



"There has been significant growth in the demand for cement in New Zealand over the past five years," says Paul Commons, General Manager, Strategy and Development. "Both current and forecast future market demand for cement is greater than the capacity of our current plant, so we are looking at a range of alternatives to address this".

Holcim New Zealand is a leading manufacturer of cement, concrete, aggregates and industrial lime products. It has more than 35 operating sites and employs in excess of 500 staff in New Zealand. The company's involvement in the New Zealand building and construction industry dates back to its Otago origins in 1888. It was formerly named Milburn New Zealand Limited and is a wholly owned subsidiary of the Holcim Ltd Group, which has operations in 70 countries on all continents.

Cement to meet domestic demand is produced by Holcim New Zealand at its manufacturing plant at Cape Foulwind, Westport. That plant has operated since 1958. In recent times though Holcim has needed to import cement to meet the gap between its domestic production capacity and customer demand.

"We announced last year that we were starting to investigate a number of options to ensure we will be able to meet the forecast demand for cement in New Zealand and that is now a significant project for the company. We have a number of options to consider, including continuation of the status quo, a range of upgrade alternatives for our Westport plant, importing cement, or building a new cement plant at another New Zealand site," says Paul Commons.

"Evaluating these options is, however, a complex process involving a wide range of experts and advisors, and will take some time."

Over the past year, exploratory drilling of potential mineral reserves has been conducted at Westport, and an engineering appraisal of the current Westport plant, and modern upgrade options for that plant, has been started. Because transportation of cement to New Zealand ports for distribution is an important consideration, work is also being carried out on analysing future shipping needs together with port infrastructure.

Holcim New Zealand is also looking at several possible sites for a new cement plant, one at Weston, close to Oamaru, and others in the South Waikato/King Country.

Investigations in the South Waikato/King Country centre on exploring options for new cement manufacturing capacity complementary to the company's existing industrial lime business, McDonald's Lime Ltd. That business has operated in the region for 40 years and includes both processing plant and quarry.

The Weston site, near Oamaru, was extensively evaluated by the company 25 years ago as a potential site for a new cement plant. Land was acquired for this purpose and the required zoning and consents were granted for a new plant. A lack of confidence in the cement market at the time was a major factor in the decision being made in the mid 1980's not to commence construction of a cement plant at that site. The appropriate zoning for the Weston site remains in place.

"To help us make an informed evaluation of this option, we need to get an updated appraisal of the Weston site for a cement plant and associated quarry activity. We also need to evaluate company owned mineral reserve sites at nearby Windsor and Ngapara for possible quarrying. To that end, we will shortly carry out comprehensive environmental and engineering assessments. These assessments will also enable us to determine the nature and degree of new resource consents that would be required for those sites," says Paul Commons.

"Although the appropriate zoning for the Weston site remains in place, new consents under the Resource Management Act would be required from both Waitaki District Council and Otago Regional Council. We won't know the scope of these consents until we get further on with the assessments.

"Obtaining the resource consents necessary to build a plant at Weston or at any other site doesn't guarantee the project will go ahead", Paul Commons said. "We need to obtain resource consents before our parent company will formally consider a manufacturing option for capital expenditure. The scale of resources required to complete the environmental and engineering assessments which are to be undertaken at Weston are such that Holcim New Zealand is unable to assess more than one site concurrently."

The final decision on whether to pursue any of the options being explored will be made by the Board of parent company Holcim Ltd. Any decision is some time away, and will take into account a variety of issues including resource consenting outcomes, land ownership, commercial contracts, community input, as well as the policies and plans adopted by local and central government.

Over the next three to four months, Holcim will be conducting preliminary fieldwork at the Weston, Ngapara and Windsor sites, and will start work on a range of assessments addressing matters such as engineering feasibility, raw material resource evaluation, ecology, social impact, transport infrastructure, economic impact, and water, landscape, noise and air effects. At the same time the company will engage with the community regarding these three sites.

Holcim New Zealand is seeking resource consents for the construction and operation of a new cement plant and associated quarry activity near Weston, close to Oamaru.



## Weston - the consenting process

This is one of several options being considered by Holcim New Zealand to ensure it can meet long-term demand for cement supply. Obtaining the relevant resource consents does not automatically mean the Weston plant will be built. It is a necessary condition before parent company Holcim Ltd will formally consider any manufacturing option for capital expenditure. The scale of resources required to complete the environmental and engineering assessments which are to be undertaken at Weston is such that Holcim New Zealand is unable to assess more than one site at the same time.

The board of Holcim New Zealand will review its manufacturing and importing options once the Weston resource consent outcome is known, and when consideration of other options has been completed.

Parent company Holcim Ltd will make the final decision, expected to be no sooner than early 2008. The final decision will be influenced by a number of issues including resource consenting outcomes, land ownership, commercial contracts, community input, as well as the policies and plans adopted by local and central government.

### Weston appraisal

Holcim New Zealand has commissioned updated and accurate appraisals of the Weston site for a cement plant and associated quarry activity. It is also evaluating company owned mineral reserve sites at nearby Windsor and Ngapara for possible quarrying. These include a range of environmental, technical and community impact reports needed for the consenting process.

The range of assessments includes, but is not limited to: engineering feasibility, raw material resource evaluation, ecology, social impact, transport infrastructure, economic impact, effects on water, landscape, as well as noise and air effects.

### Timing

Holcim expects to receive the results of the initial fieldwork and technical assessments in mid-2006.

At the completion of the initial fieldwork and technical assessments, Holcim New Zealand will formally engage with the relevant consenting authorities to clarify the priorities for the preparation of the AEE documents (Assessment of Environmental Effects), as required under the Resource Management Act (RMA).

### Consultation

Holcim New Zealand is committed to consulting with the local community around the Weston, Windsor and Ngapara sites and is embarking on a very open consultation process.

This includes an initial social effects assessment which will include input from the local communities and other stakeholders.

Public participation is a cornerstone of the RMA and there will be a number of opportunities for people to comment on the proposal, including during the initial consultative stages, as well as the later submission and hearing processes.

The ongoing consultation process provides for:

- Consultation forums
- Regular newsletters
- Advertorials in local newspapers
- Fact sheets about technical reports
- Access to AEE information and reports as they become available
- Information about the formal resource consenting process
- 0800 number
- Email address
- Website information

## What is cement?

Cement is a powdered substance which when mixed with water forms a soft paste, which hardens on drying, and is used to bind together bricks, gravel and stones, as a building material. Most cement is used in the production of concrete.

## What is it used for?

Cement (and concrete) is a fundamental requirement for a modern, developed economy.

Modern day Portland Cement was brought into existence only during the early nineteenth century. However, mankind has used burnt lime and clay as cementing material for construction purposes through many centuries. Most famous ancient structures in Rome were constructed using lime as the cementing material.

Cement began to be used increasingly in the second half of the nineteenth century and was the foundation of the huge economic development that occurred in the twentieth century with the building of modern cities and infrastructure.

Its modern uses include:

- building (floors, beams, columns, roofing, piles, bricks, mortar, panels, plaster)
- transport (roads, pathways, crossings, bridges, sleepers, viaducts, tunnels, stabilisation, runways, parking)
- water (pipes, culverts, kerbing, drains, canals, weirs, dams, tanks, pools)
- civil (piers, docks, retaining walls, silos, warehousing, poles, pylons, fencing)
- agriculture (buildings, processing, housing, feedlots, irrigation)

## The raw materials

The active ingredients in cement are calcium silicates (alite and belite). The source of the calcium in cement is typically limestone ( $\text{CaCO}_3$ ). The source of the silica is usually silica-rich sand or rock.

The limestone and silica are heated in a rotary kiln, along with small quantities of alumina and iron to promote the necessary chemical reactions. The kiln heat is typically provided by coal, gas or oil. Some naturally occurring elements have an adverse effect on the cement-forming process (sodium, potassium, magnesium, and chlorine) and raw materials need to be analysed to ensure they are suitable.

## Site considerations

Because of the volumes of materials required to make cement, the best sites are those that have a ready supply of raw materials nearby: limestone, sand, and coal (or gas or oil).

Some specialist materials may need to be imported or brought in from outside.

## The modern cement kiln

Modern cement manufacturing plants use 'dry process' technology.

The raw materials are dried and ground and mixed to form a fine, homogeneous powder with moisture content below 1 percent. This powder is fed into the kiln where the heat promotes the necessary chemical reactions. The kiln exhaust gases are the main source of heat used to dry the raw materials.

Older cement kilns use a wet process, where the ground material is mixed with water to produce slurry, which is then fed to the kiln. A modern 'dry process' plant uses approximately half the energy of a 'wet process' plant.

## Raw material preparation

The limestone and silica-rich sand or rock is quarried and crushed, and transported to storage stockpiles near the kiln where pre-blending takes place.

The materials must be carefully mixed and supplied to the raw mill where they are dried and crushed to a fine flour-like powder. From the raw mill, the materials are transported to the homogenising silo, and from there to the kiln system.

## Clinker

Clinker is an intermediate material in the cement production process. It is produced in the rotary kiln when the raw materials are heated to around  $1500^\circ\text{C}$  while being mixed, which allows the calcium silicates to form. Clinker comes out of the kiln as small granules.

# How cement is made



## Cement

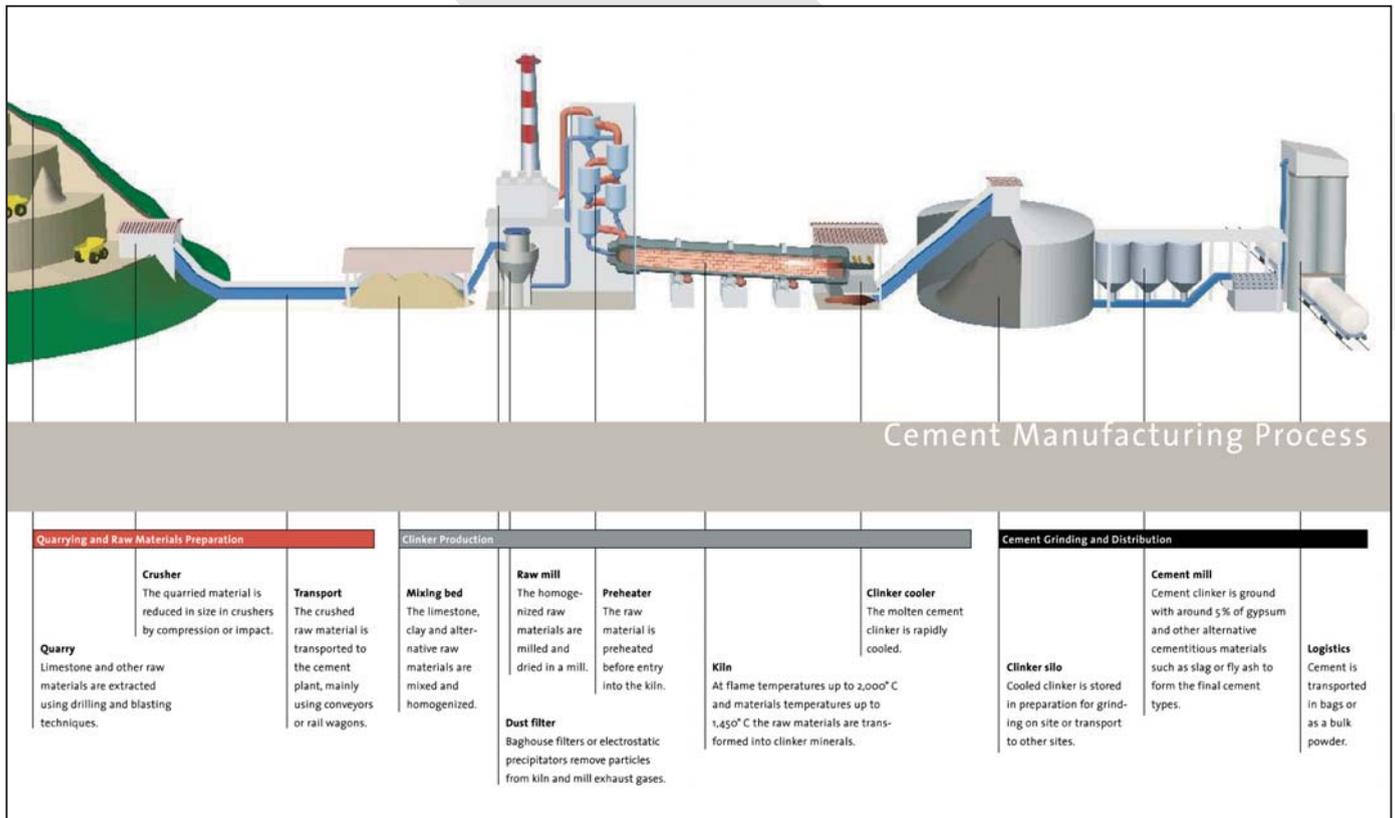
Once clinker is cooled, it is transported to the cement mill and is ground with gypsum to produce Ordinary Portland Cement (OPC). Gypsum (Calcium Sulphate) is added to control the early setting behaviour of cement. It makes up about 4-5 percent of the final cement.

Other types of cement are produced by feeding other materials to the cement mill in addition to the clinker and gypsum.

## Distribution

In New Zealand, around 90 percent of Holcim cement is distributed to bulk silos at marine terminals using specialised bulk cement carriers and ships. This distribution chain includes distribution silos at seven ports, two bulk cement ships, rail tankers and road tankers.

Distribution costs for bulk cement can be significant and in New Zealand they represent approximately 50% of final costs.



Holcim New Zealand operates throughout New Zealand, manufacturing and distributing cement, concrete, aggregates, as well as industrial lime products.



## Holcim - Background

There are more than 35 operational Holcim New Zealand sites, employing some 530 staff.

The head office is based in Christchurch, where around 50 staff are employed.

Holcim New Zealand is wholly owned by Holcim Ltd, an international Swiss-based company with operations in 70 countries around the world.

Holcim New Zealand has a local Board of Directors, which is responsible for the direction and supervision of the business. One member of the local board also sits on the Executive Committee of Holcim Ltd.

### Holcim New Zealand history

Holcim New Zealand can trace its roots to 1888, when the Milburn Lime and Cement Company Ltd was established and began operating a cement works at Pelichet Bay (Otago Harbour), and a lime works at Milburn, south of Dunedin.

In 1929 a new cement plant was built at Burnside, on the outskirts of Dunedin, and the Pelichet Bay plant was closed.

The New Zealand Cement Company commenced operating a new cement plant at Westport in 1958 to meet the growing demand for cement.

In 1963 Milburn and the New Zealand Cement Company merged to form New Zealand Cement Holdings Ltd. In the next 12 years two new production kilns were commissioned at the Westport plant to treble its capacity to meet the continued growth in demand for cement.

In 1977 Holcim, a Swiss company (then known as Holderbank), bought 52 percent of New Zealand Cement Holdings Ltd, and relocated its head office from Dunedin to Christchurch.

In 1988 the company celebrated 100 years of operations and changed its name to Milburn New Zealand Ltd. The Burnside plant was also closed in the same year.

Holcim moved to 100 percent ownership in 1999.

In September 2002 the name Holcim (New Zealand) Ltd was adopted.

### Holcim New Zealand cement operations

Holcim New Zealand operates a cement manufacturing plant at Cape Foulwind, Westport. It produces up to 500,000 tonnes of cement each year.

The Westport plant employs around 130 staff. It operates 24 hours a day, seven days a week, every day of the year.

The cement from the Westport plant is distributed around New Zealand in two bulk cement ships, which are owned and operated by the company. These ships deliver cement to marine terminals at Lyttelton, Dunedin, Onehunga (Auckland), Wellington, Nelson, New Plymouth and Napier.

Bulk cement is delivered from terminals to customer sites by a fleet of Holcim specialised road tankers. 90% of all cement sold is in bulk, with bagged cement representing 10% of sales.

### Holcim New Zealand concrete operations

Milburn moved into the concrete market in September 1988 when it formed Allied Milburn, which took over the operation of three concrete plants in the Wellington region. Allied Milburn (a 50% owned subsidiary) has grown to an operation that includes more than 30 locations.

In early 1989 Milburn acquired Ready Mixed Concrete Limited in Auckland and the Waikato, (now trades as Holcim Concrete). Holcim Concrete includes both ready mix concrete and masonry operations.

### Holcim New Zealand aggregate operations

Holcim New Zealand operates aggregate quarries in the North Island at Bombay (Auckland) and Hastings. Additional supplies of aggregates are produced in the Auckland area by Millbrook Quarries (50% owned) and Atlas Resources (25% owned). Principle markets for Holcim aggregates products are ready mix concrete production, roading and civil construction.

Holcim Ltd originally began trading in 1912 in the Swiss village of Holderbank near Zurich.



### Holcim New Zealand lime operations

Holcim New Zealand has a 72 percent shareholding in McDonald's Lime Ltd, which operates a lime works at Otorohanga, in the South Waikato/King Country region.

The plant was commissioned in 1968 in order to supply the steel works at Glenbrook. Raw materials are supplied from the company's quarry at Oparure near Te Kuiti.

The Otorohanga works employs 70 staff and produces burnt, hydrated, and agricultural lime products and lime stone chip for the North Island market and export. Applications for lime products are predominantly agriculture, steel making, water treatment, gold mining and meat processing.

Holcim also owns Taylor's Lime based in the South Island. Taylor's opened a new plant in 1990 at Makareao in North Otago, which replaced an existing plant at Weston. Taylor's produces a similar range of products as McDonald's Lime.

### Holcim Ltd

Holcim Ltd originally began trading in 1912 in the Swiss village of Holderbank near Zurich. The company was originally named Holderbank and was renamed Holcim in 2001.

The main business activities of Holcim are the manufacture and distribution of cement, aggregates and ready mix concrete to building and construction markets.

During its history Holcim has expanded and diversified its operations throughout the world to include Europe, the Middle East, Southern Africa, Asia, North and South America, and the Pacific.

Holcim now has interests in 70 countries throughout the world, and employs in excess of 60,000 staff.

## Paul Commons

General Manager Strategy and Development

Paul has been with Holcim New Zealand for 15 years. He reports directly to Holcim New Zealand Managing Director Rex Williams.

Paul is the Project Manager and spokesperson.

In addition to being a member of the Holcim New Zealand management team he is also a director of a Holcim subsidiary ready mix concrete company and the Cement and Concrete Association of New Zealand, an industry research and promotion organisation.

Paul has held a number of roles within the company including commercial and operational positions in different products and markets.

Paul has science and management degree qualifications. He is married with three children and lives in Christchurch. He has worked in various New Zealand and overseas locations.

Personal interests include broad sporting pursuits increasingly related to his children's activities.

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