

# Novacem media pack

January 2012



## Media pack overview

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- This document is a compilation of Novacem information of general media interest
- Please visit the [downloads](#) section of our website to access our:
  - Latest corporate profile with information on development of the company, key people, partners and investors
  - Latest technical briefing with information on the Novacem technology and a comparison with ordinary Portland cement
  - High resolution Novacem images for use in publications

## Novacem videos

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- September 2010 – [Interview with Stuart Evans](#), Novacem Executive Chairman, on announcement of Novacem as a World Economic Forum Technology Pioneer for 2011
- April 2010 – [MIT Technology Review interviews Nikolaos Vlasopolous](#), Novacem Chief Scientist, about being featured on the 2010 list of emerging technologies which will change the world
- March 2010 – [Elevator pitch from Stuart Evans](#), Novacem Executive Chairman, at the Bloomberg New Energy Summit in London, where Novacem were named a New Energy Pioneer
- September 2009 – [Interview with Stuart Evans](#), Novacem Executive Chairman, by Alison van Diggelen of Fresh Dialogues at the 2009 Going Green conference in Sausalito

## Selected Novacem media coverage

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- Financial Times (January 2012) – [Solid solutions: Can the development of carbon negative cement clean up the heavily polluting construction industry?](#)
- Smithsonian Magazine (November 2011) – [Building a better world with green cement](#)
- Business Week (September 2010) – [Novacem: Cement that eats carbon](#)
- MIT Technology Review (April 2010) – [Storing carbon dioxide in cement](#)
- The Sunday Times (May 2009) – [Green pioneers: Stuart Evans and Nikolaos Vlasopolous](#)
- The Guardian (Dec 2008) – [Revealed: The cement that eats carbon dioxide](#)

## Selected Novacem industry coverage

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- [Deloitte Technology Predictions](#) (February 2010)

'From gray to green: technology re-invents cement': A chapter in Deloitte's annual technology predictions publication discusses cement industry challenges and addresses the development of carbon negative cement at Novacem

- [Cement Industry Technology Roadmap](#) (December 2009)

The Cement Sustainability Initiative and the International Energy Agency recently published a roadmap which outlined the cement industry's imperative to reduce emissions and gave Novacem a prominent position as an emerging technology to monitor

# Awards and recognition to date for Novacem

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- Oct 2011 Novacem listed on the Global Cleantech 100 for the second year
- Feb 2011 Novacem named as University Spin-out of the Year winner at the New Energy Awards
- Feb 2011 Novacem announced as Material ConneXion Medium Award Material of the year
- Oct 2010 Novacem listed on the Global Cleantech 100
- Sept 2010 Novacem announced as a Wall Street Journal Technology Innovation Awards winner
- Sept 2010 Novacem announced as a Technology Pioneer by the World Economic Forum
- April 2010 Novacem announced as one of MIT Technology Review's 10 most important emerging technologies
- March 2010 Novacem recognised as a New Energy Pioneer by Bloomberg New Energy Finance
- Dec 2009 Novacem wins the Energy/Environment category at the 2009 ACES Academic Enterprise Europe
- Nov 2009 Novacem wins the Environment award in the 2009 London Technology Fund competition
- Jan 2009 Novacem wins the Overall Award and the Environment category at the 2008 Rushlight Awards

## Quotes about Novacem

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- “Most people are surprised to learn that cement production accounts for about 5 percent of the all CO2 emissions. Novacem’s Chief Scientist Dr Nikolaos Vlasopoulos wants to change that. His ingenious recipe makes cement that actually absorbs more carbon dioxide than is released during its manufacture, which could mean that „green concrete“ will finally become a reality.”

*David Rotman, Editor, MIT Technology Review Magazine (April 2010 after Novacem’s inclusion on the 2010 Top 10 Emerging Technologies*

- “Bloomberg New Energy Finance chose the Pioneers because we feel they are ‘game changers’ in new energy technology and innovation. The work they are doing is progressive and significant to the future of developing new clean energy technology.”

*Michael Liebreich, chairman and chief executive of Bloomberg New Energy Finance following the unveiling of Novacem as a Bloomberg New Energy Finance Pioneer*

# Novacem FAQ (1/2)

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## **1. How is the Novacem composition and production process different from Portland cement production?**

*Portland cement production is highly carbon intensive: CO<sub>2</sub> is driven off by heating limestone (calcium carbonate) and additional emissions are generated from energy used to fire kilns at 1,450°C. Novacem cement is based on a combination of Magnesium Oxide (MgO) and magnesium carbonates produced from magnesium silicate raw materials.*

*The use of magnesium silicates means there are no CO<sub>2</sub> emissions from raw materials. In addition, the comparatively low temperatures in the Novacem process allow use of fuels with low energy content or carbon intensity (i.e. biomass), further reducing emissions. The creation of magnesium carbonates from magnesium silicates involves absorption of CO<sub>2</sub> and makes the whole Novacem production process carbon negative.*

## **2. How does the carbon footprint of Novacem cement compare to ordinary Portland cement?**

*Production of 1 tonne of Ordinary Portland Cement emits 800 kg of CO<sub>2</sub> on average, whereas production of 1 tonne of Novacem cement absorbs up to 50 kg of CO<sub>2</sub>. Thus, for every tonne of Portland cement replaced by Novacem, production stage CO<sub>2</sub> emissions are reduced by up to 850 kg.*

*CO<sub>2</sub> emissions for traditional blended cements (Ordinary Portland Cement blended with slag, fly ash etc.) average 650kg per tonne of cement. So for every tonne of blended cement replaced by Novacem cement, CO<sub>2</sub> emissions are reduced by up to 700 kg.*

## **3. Do other Magnesium Oxide based cements exist?**

*Various Magnesium Oxide based cements, e.g., Magnesium Oxychloride, Magnesium Oxysulphate and Magnesium Phosphate cements, have been available since the late 1860s. However, performance limitations, such as lack of water resistance or excessively rapid setting times, meant that they were used for a very small number of building applications (e.g., industrial flooring and insulating wall panels). Novacem has developed a new Magnesium Oxide cement composition which does not suffer from these limitations.*

## Novacem FAQ (1/2)

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**4. Are there adequate reserves of magnesium silicates to supply Novacem production on a large scale?**

*Availability of raw materials will not be limiting factor on the scale up of Novacem cement production. Magnesium silicate minerals occur close to the surface of the Earth in a wide range of forms, e.g., serpentine, olivine and talc. Our expert led geological surveys estimate that over 20,000 billion tonnes of magnesium silicate minerals exist.*

**5. Has Novacem cement been used in any demonstration projects?**

*Novacem cement is currently being produced at our batch pilot plant in London as part of our testing and development programme. We intend to commission a semi-commercial plant in the coming years to support development of commercial applications for the cement.*

**6. Is Novacem cement available for purchase?**

*Our cement is not yet available for purchase. We expect that Novacem cement will be on the market from 2017/18*

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