

# Cementir's green growth path: focus on China

In line with Cementir's decarbonisation commitments, the company's Anqing white cement plant in China has initiated an ambitious action plan to reduce emissions and respond to the country's dual carbon goals. Measures include increasing alternative fuel usage, improving energy efficiency and introducing innovative downstream products to help lead the white cement industry's low-carbon transition.

■ by *Cementir, Italy*

The building and construction sectors are seen as one of the main sources of greenhouse gas emissions. Decarbonising cement and concrete – indispensable materials for building and infrastructure – play a pivotal role in achieving net zero emission targets. However, the complex built environment ecosystem with its various stakeholders requires a collaborative approach by all companies across the value chain to explore a new sustainable growth path.

Cementir has been engaging with various industrial stakeholders at a global and regional level for sustainable value creation and growth. In 2020 the group set ambitious 10-year sustainability goals and emissions targets, with a cumulative green capex of E97m by 2024. Investments include, among others, a new kiln at the company's cement plant in Belgium to increase alternative fuels usage from 40 per cent currently to 80 per cent, switching to natural gas and biogas in some plants, the extension of district heating and other energy efficiency projects. There are also measures to reduce the impact of transport on climate change and make the best possible use of water resources.

In 2021 Cementir's rating was upgraded to 'A-' by the Carbon Disclosure Project (CDP) and its CO<sub>2</sub> emissions reduction targets have been validated by the Science Based Targets initiative (SBTi), both of which confirm the group's commitment to its strategic low-carbon transformation.

Michele Di Marino, chief sales, marketing and commercial development officer of Cementir Holding, comments: "In Europe we noticed that project owners have started to rethink and optimise the design of buildings by using sustainable

building materials or employing innovative construction models like modular construction, UHPC [Ultra High Performance Concrete] or 3D printing. We are thrilled to see that our low-carbon cement technology, **FUTURECEM™**, has been used for the UN17 Village in Denmark, the first global sustainable building with all the 17 SDGs [sustainable development goals].

"Likewise, our InWhite® UHPC ranges have been used for, among others, building façades and balconies in a couple of BREEAM or LEED projects across the globe. In the near future, our 3D concrete printing in the pipeline will contribute greater value in the green and sustainable building ecosystem."

## Asia-Pacific's acceleration

At the international level, the group has been highly active in the development of the Innovandi Steering Committee, a large consortium comprised of cement and concrete companies driving innovation to tackle climate challenge. All these initiatives have been propelling Cementir to be a key contributor in the decarbonisation of the building and construction industries. In the Asia-Pacific

Cementir's Anqing plant is leading the white cement industry's low-carbon transition in China



region, Cementir's two white cement plants are accelerating the pace of the low-carbon transition under the deployment of the group.

"As the largest white cement production and consumption market in the world, China occupies 26 per cent of the global white cement market. In China, we have one white cement plant in Anqing in the Anhui region, with a capacity of approximately 700,000tpa. As the main player in white cement, we firmly lead the peers at the global and local level to shoulder the mission of further decarbonising white cement's footprint. Low-carbon cement innovation is one of the key levers of net zero emission. We believe that **FUTURECEM** limestone calcined clay technology will achieve the leap from grey cement to white cement, enhancing our decarbonising business also in China," Mr Di Marino continues.

### Anqing's low-carbon transition

The Anqing plant was founded in 2004 and is the largest producer of white cement in the Asia-Pacific region. With its strict global quality management system, Aalborg White® cement has been recognised and trusted by Chinese industrial users for its consistently high quality and has become the most reliable white cement brand used in landmark buildings and mega infrastructure projects in China.

In line with the group's low-carbon efforts and its swift response to China's peak carbon and carbon neutral goals, the Anqing plant has initiated an ambitious action plan to reduce emissions and injected the 'green gene' into the Aalborg White® cement product ranges. Thanks to Cementir's cutting-edge decarbonising technologies, the Anqing plant has hit the road and is leading China's white cement industry's low-carbon transition.

"Global warming and greenhouse gas emissions reduction have become the consensus of all countries around the world. As a leading company in the Chinese white cement industry, Cementir's China plant attaches great importance to the low-carbon transformation of cement production. Management has included CO<sub>2</sub> emissions reduction in the company's long-term development strategy and a low-carbon roadmap has been formulated, which allows us to fully implement corporate social responsibilities in China. Our local expert team is dedicated to seek and use alternative fuels, carry out leading-edge energy-saving technologies in the white cement production process and continuously improve the level of energy saving and emissions reduction, actively coping with the 30 per cent CO<sub>2</sub> reduction target of the Cementir Group by 2030," notes Yan Xingwu, managing director of Aalborg Portland China.

In recent years low-carbon technologies and measures in the areas of resource



InWhite™ UHPC web panels presented at a building materials exhibition in China

and energy efficiency have been fully deployed at the Anqing plant, including reducing energy consumption, increasing alternative fuels and raw materials (ARM) usage and launching innovative downstream white cement products.

### Reducing energy consumption

Controlling energy consumption per unit of white cement product at the plant continues to be at the advanced international and domestic level. Cementir's Anqing works continues to optimise energy-saving technologies and lower heat and electricity consumption, resulting in its CO<sub>2</sub> emissions being at the leading international level.

The Anqing plant has also been involved in the formulation of a local standard in Anhui province entitled: 'Energy consumption limit of white Portland cement unit product'. It is now also engaging in the compilation of a national standard for a 'Special cement unit product energy consumption limit.'

### Alternative fuel usage

The Anqing plant has taken the lead in researching alternative fuel technology within China's white cement industry. In 2020 the company set up a dedicated project team to investigate local alternative fuel resources and their application feasibility, finally confirming technical solutions and roadmaps and ensuring the overall plan can be smoothly implemented before 2025.

### Alternative raw materials for white cement production

The company regards the continuous improvement of clinker quality and the reduction of clinker usage as a key priority for quality management. It sets annual clinker strength targets and clinker/cement ratios to maximise a reduction in clinker usage to achieve CO<sub>2</sub> emissions goals.

As a leader of China's White Cement Industry Association, Aalborg Portland Anqing wishes to lead industrial peers to embark on the journey towards a low-carbon transition and make significant contributions to decarbonise the construction and building material industries in China.

### Sustainable downstream white cement products

In 2019 Cementir's downstream InWhite UHPC series successfully landed in the China market. The next generation UHPC

products, Aalborg Extreme™ and Aalborg Excel™, are empowered by Cementir's patented FUTURECEM low-carbon technology, which employs a unique selection of binder components known to the cement and concrete industry, offering highly advantageous pozzolanic reactions not constrained by industrial byproducts. High compressive strength, excellent fluidity, low shrinkage and self-compacting performance allows these two sustainable UHPC products to stand out among similar products in the Chinese market.

In 2020 Aalborg Extreme™ UHPC was used in landmark commercial project bidding in China, including the construction of the Zhuhai Jinwan Civic Art Center façade, for which the Aalborg White® China team engaged in commercial and technical support. Thanks to the China team's active participation and knowledge education of sustainable UHPC to industrial peers via various industrial conferences and architect activities, Extreme has established a wide reputation in the decorative building materials industry, whilst pushing forward the formulation of UHPC industrial standards.

In 2021 Aalborg Excel™ UHPC started sales to the power industry. The prefabricated electricity substation has, among others, lightweight, standardisation, low-carbon and energy-saving advantages. Excel, with its slim and high durability features, perfectly conforms to construction requirements, meeting the functional purposes of node installation optimisation, a reduction of supporting scaffolding and mould usage, a 50 per cent saving in construction lead time and a 20 per cent reduction in labour costs.

In the stone industry, Excel UHPC artificial stone, with its light, aesthetic, high-strength and durable advantages, is gradually replacing non-renewable natural stone. The new sustainable stone development based on Excel UHPC is seeing positive progress.

With the high brand visibility of the InWhite™ UHPC ranges, some mega project owners, including a world-class green equipment manufacturing plant and international exhibition centre, have shown great interest in the Extreme and Excel UHPC offerings, wishing to receive further product and technical support.

It is thrilling that the next UHPC generation with the FUTURECEM patented technology has ushered in new development opportunities in the Chinese market. ■



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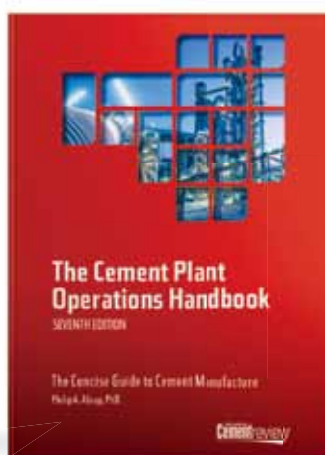
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