Global Cement Magazine staff

CITY CEMENT: A BEACON IN THE DESERT

City Cement of Saudi Arabia is a pioneering cement company, as *Global Cement* discovered on a recent visit...

Global Cement (GC): **Please can you introduce City Cement Company?**

Majed Al Osailan (MAO): City Cement was founded by Mr Ahmed Bin Omar Al-Abdullatif. His family has been in business for 60 years, mainly in textiles. Mr Ahmed initiated the greenfield project to foster national development while creating economic value and diversifying the family's business.

In 2004, he obtained the required license and began raising funds. Constructing a cement plant in the chosen location, 135km from Riyadh, posed particular challenges. It required proximity to raw material quarries while maintaining a suitable distance from nearby communities. The company was officially incorporated in 2005, followed by the commencement of construction work. Trial operations began in 2007, and the first production line was launched in early 2008, producing 5500t/day of clinker, equivalent to 2Mt/yr of cement.

By 2008, there were 13 players in a fragmented market in Saudi Arabia, but double-digit growth from 2006 to 2015 prompted many to expand. Regulators required cement plants to go public since the industry was government-subsidised. The IPO of City Cement was finalised, attracting three million subscribers. In 2012, when I joined the company as CFO, the company signed for a second production line with Sinoma as the contractor. The equipment was top-tier, made in Europe by companies like thyssenkrupp Polysius and FLSmidth.

By 2014, demand in Saudi Arabia reached 61Mt/yr, while supply stood at 55Mt/yr. Unfortunately, just as the plant became operational in 2015, several new competitors entered the market, driving supply up to 80-85Mt/yr. In 2016, the government launched its Vision 2030 plan, focusing on spending efficiency and

Majed Bin Abdulrahman Al-Osailan is the CEO and an Executive Board Member of City Cement Company. He has over 20 years of diverse experience in finance, manufacturing, energy and sustainability. He holds an MBA from the UK and a Global Executive certification from INSEAD, blending strategic insight with operational excellence.

Overview of City Cement's plant.

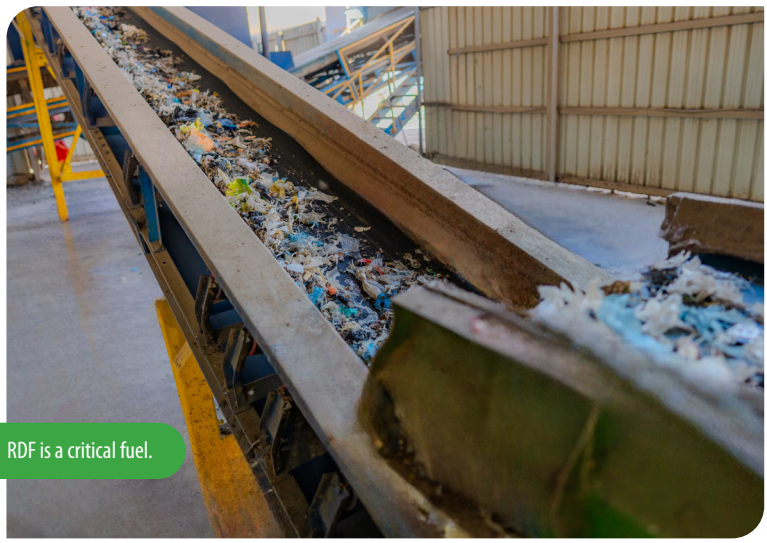
Location of City Cement in Saudi Arabia.

other stimulating measures, which were challenged by global circumstances, including Covid-19, inflation, rising borrowing costs and more. This posed difficulties, as we had just commissioned the second line. Shareholders had high expectations, in addition to a US$266m investment that needed to be managed.

***GC:* Why, in such an oil-rich country, did City Cement start to use alternative fuels (AF)?**

MAO: The first seminar I attended as CFO was the *Global CemFuels Conference* in 2013, which was an eye-opener. I realised that none of the attending cement producers - all from Europe or South America - were using heavy fuel oil. Considering the global challenges I mentioned, I anticipated that subsidies on raw materials and fuel wouldn't last.

We reached out to consultants and discovered that waste tyres could be a possible source of AF. There were millions of tyres lying in landfills in Saudi Arabia, which also posed a fire risk. We began gradually investing in tyre-shredding and feeding equipment for tyre-derived fuel (TDF).



RDF is a critical fuel.

Using TDF required significant effort to convince regulators and environmental authorities due to a lack of comprehensive regulations for treating such waste. Additionally, two major challenges emerged: the immature value chain for securing, producing, and supplying TDF and employee resistance. Staff were used to a stable fuel supply from Aramco, the state-owned oil company, making the transition to TDF complex. This included building the entire value chain and addressing various technical challenges such as differing pyroprocess variabilities, steel content and other process controls. During this time, I encouraged more colleagues to join me at the *Global CemFuels Conference*, allowing them to gain insights into the global industry outlook and to stay updated on the latest trends and best practices to tackle these challenges.

In 2016, we secured contracts with various municipalities to treat municipal solid waste (MSW) through recycling and the production of refuse-derived fuels (RDF), facing the same cycle and challenges of developing the TDF. This was despite the fact that fuel costs were much higher than state-subsidised fuels. Nonetheless, I'm proud of the company's board members, who had the foresight to view it as an investment, understanding that subsidies wouldn't last and that we'd gain a competitive edge in the market.

By 2018, municipalities began reaching out to us for waste treatment. By 2020, we had increased our thermal substitution rate (TSR) from 3% to nearly 20% in just four years, decreasing processing costs of the fuel mix by 30-40%. We also explored AF, such as carbon black and spent pot liner (SPL) waste from aluminium smelters. SPL contains refractory bricks with high and variable levels of carbon and, as it is

Waste heat recovery unit at City Cement.

classified as hazardous waste, it requires special processing. We collaborated with consultants we met at *Global CemFuels* to conduct studies on SPL, and their efforts helped us to persuade both regulators and the waste generator, which agreed to cover the treatment costs.

By 2020 our fuel mix included five different types, achieving a 25% TSR, with a heavy reliance on used oils and used lubricants. The production and use of various AF allowed a higher utilisation of the company's production lines with a greener footprint by decreasing the CO_2 emissions by around 55kg/t, creating more than 80 job opportunities, including highly skilled jobs, and private investment exceeded US$40m.

In 2020, the government established comprehensive regulations for the waste supply chain, and the Crown Prince reaffirmed his commitment to decarbonisation, emphasising renewables, reducing reliance on high-carbon fuels, and achieving 95% waste diversion. In 2024, the Ministry of Energy launched the Liquid Fuel Displacement Program (LDP), which replaces the use of liquid fuel, including heavy fuel oil, in cement production. Companies would receive natural gas if a nearby pipeline was available; otherwise, they had to use alternative fuels.

Throughout this journey, there were energy price reforms, with prices rising from being cheaper than water, to even the subsidised rates becoming expensive. This worked in our favour as we were already ahead of the rest of the industry in Saudi Arabia in developing AF. While our fuel costs remain higher, we have successfully reduced them, and there's still potential for further reduction.

***GC:* What is the next step for City Cement in terms of AF?**

MAO: Since 2013 I have advocated to the Ministry of Planning about the importance of waste-to-energy, as the cement sector alone cannot address the entire waste problem. In 2021, we established a separate company, Green Solutions for Environmental Services, to focus on environmental initiatives. We appointed a specialised board, including leading European experts. We began operating various landfills and, in 2022, our efforts attracted interest from the Public Investment Fund (PIF) through the Saudi Investment Recycling Company (SIRC), leading to a joint venture to build a facility in Riyadh to produce RDF to meet the needs of the entire country.

City Cement and its subsidiaries will continue to invest directly and through joint ventures in developing waste treatment and alternative fuel production value chains in Saudi Arabia. The company board has approved a generous undisclosed investment aimed at fostering the organic and inorganic growth of waste treatment and alternative fuel production opportunities. City Cement's unwavering commitment to lead in Saudi Arabia by implementing and localising the best sustainability practices through waste recycling and alternative fuel utilisation will be instrumental in achieving the nation's target of 94% waste diversion from landfills and reducing CO_2 emissions by 278Mt/yr. By 2030, the company targets 50% TSR from AF.

The new RDF facility in Riyadh, in partnership with SIRC, will focus on treating MSW. The facility aims to process undisclosed quantities of MSW to recover recyclables and produce RDF, which will be used at City Cement's plant.

***GC:* What else is City Cement doing to help decarbonise the Saudi Arabian cement industry?**

Quality control is partially automated.

MAJOR DEVELOPMENTS

2004: City Cement established.

2007: First production line operational (5000t/day).

2012: IPO of 50% of company shares, with more than three million subscribers.

2013: Fuel rationalisation initiatives.

2015: Second production line operational (5500t/day); Introduction of TDF; Launch of 14.3MW waste heat recovery unit.

2016: Study of solid, industrial and agricultural waste as AF.

2018: Raised TSR and launched eco-friendly products.

2019: Launched new strategy and transformation roadmap. Initiated waste management scheme with government.

2020: Launched the first integrated RDF production facility in Saudi Arabia.

2021: Launch of Green Solution and Implementation of Tier I ERP system SAP S4HANA.

2022: Launched low-CO_2 Green Finishing Cement.

2023: Green Solutions, SIRC and Lechtenberg ME signed an MOU to create KSA's largest MRF; Achieved top ranking in Saudi Arabia for digitalisation, earning an advanced SIRI level; First in Saudi Arabia to publish EPDs for its cement products.

2024: First cement industry sustainability report in Saudi Arabia; Signing of MOU for Energy Transition Project with TSR target of 45%.

MAO: In 2024 we formed a joint venture with Next Generation SCM, a UK-based company with the rights to a patented clay calcination technology from CemGreen, a Danish firm. This CemTower technology produces clay-based supplementary cementitious materials (SCMs) with a low CO_2 footprint and superior characteristics, potentially substituting traditional SCMs. Our raw materials were tested in Denmark, and showed excellent results. We have received significant interest from giga-project contractors due to its significantly lower CO_2 footprint and cost-effectiveness. We will build a number of clay-calcination units. Equipment will be shipped in containers from Denmark to Saudi Arabia.

GC: **How is City Cement performing with regard to energy efficiency and digital readiness?**

MAO: The government closely monitors the cement industry. A governmental body under the Ministry of Energy, called the Saudi Efficiency Energy Centre (SEEC), visited all cement plants in 2011 to establish efficiency benchmarks and promote compliance. After initial warnings were ignored, it strengthened its position in 2015 by implementing a system of penalties and rewards. By 2018, enforcement had become strict; cement plants that surpassed benchmarks faced immediate penalties, including fines based on international pricing, while those that met targets were rewarded with compensation. We take pride in receiving compensation due to our success in performing better than the benchmarks.

The Ministry of Industry appointed an evaluator to assess all cement companies regarding their readiness for Industry 4.0 and digital transformation. We ranked number one in the Saudi cement industry, a recognition of our significant investment in this transformation, with fully functioning enterprise resource planning models that encompass plant maintenance, production, financial accounting, financial controls, material management, quality control and human capital management. Our advanced performance systems and digital dashboards now deliver complete business visibility, transparency and control, facilitating decisive decision-making and enabling us to efficiently manage operations and resources. We have significantly increased our TSR, reduced our clinker factor, and broadened our product mix, diversifying into new cement types to foster further innovation. Furthermore, we invested in a waste heat recovery system with a 15MW generation capacity, becoming the first company in the country and the region to heavily invest in such a portfolio of sustainable technologies.

Recognising the need for further standardisation, Environmental Product Declarations (EPDs) have been introduced in Saudi Arabia to ensure transparency and prevent greenwashing. Consequently, all our products have been issued EPDs. City Cement is also the first cement producer in the GCC - aside from multinational producers - to release a comprehensive sustainability report. The report has received endorsement from the Ministry of Industry itself, which has strongly encouraged other companies to follow our example.

Starting in 2026, the Capital Market Authority (CMA) will require the announcement of sustainability initiatives. There's a lot happening, and we've gained great trust from regulators. The Ministry of Planning has chosen City Cement as a champion for sustainability in our industry. We're proud and committed, and we see this as just the beginning of the journey.

***GC:* How does City Cement fit into Saudi Arabia's hugely ambitious goal of becoming net-zero by 2060?**

MAO: Decarbonisation starts with improving efficiency, continuously upgrading our thermal and electrical energy matrix towards a sustainable energy portfolio, and using sustainable raw materials. Additionally, we are connecting the plant to the national electricity grid and switching to natural gas. These collective actions will lead to a consistent and consecutive reduction in our carbon footprint.

We have also looked at carbon capture and the feasibility of these technologies. With AF we had a first-mover advantage and built a competitive edge, encouraging the market to prefer eco-friendly materials. I'm proud that major project owners and contractors now prioritise sustainability, considering LEED certifications, carbon impact and materials. It took significant effort and investment, but it was necessary. If two materials cost the same, then choosing the greener option is logical. Our leadership, team and vision made this possible.

***GC:* Why hasn't there been much rationalisation in the Saudi cement industry?**

MAO: For a long time, we have recognised the fragmentation of the market, which features numerous players. Currently, the largest player holds only a 12-15% market share, with the remainder distributed among more than a dozen companies, resulting in a highly fragmented and competitive market devoid of clear leaders.

Bag house infrastructure at City Cement.

As this is a commodity business, a drop in demand leads to price fluctuations that impact industry profits. The market needs to mature and consolidate. Additionally, with a roadmap of US$1.7tn in planned spending on cement-intensive giga-projects in Saudi Arabia, concerns have arisen about the availability of building materials.

To that end, City Cement has signed a Memorandum of Understanding (MOU) to acquire Umm Al-Qura Cement at Taif in the west of Saudi Arabia, and has met with regulators and stakeholders. Umm Al-Qura Cement operates one production line and maintains a large inventory, with an economic market reach of approximately 800km. The company is strategically positioned near Jeddah and Makkah, both of which have considerable potential demand.

It will be interesting to see how many cement companies remain in Saudi Arabia in the next 10 years. If consolidation continues, there could be just five or six.

Another bag of City Cement ready for the market.

***GC:* Why hasn't vertical integration happened in Saudi Arabia to the same extent as elsewhere?**

MAO: For some time, vertical integration in the cement industry did not occur due to high margins and fragmentation. Acquiring a concrete company could result in competition with other suppliers. Recently, a few companies have begun integrating, but the ecosystem is still evolving. 10-15 years ago, with everything subsidised and net margins at very high levels, companies did not need to be concerned. Today, the challenges are prompting companies to adapt, which is why we decided to act early and achieve key milestones to progress.

***GC:* What are the next steps for City Cement?**

MAO: Back in 2018, we were the first company in the industry to undertake financial re-engineering, reviewing our balance sheet and recognising a surplus of capital. We decided to reduce our paid-up capital to become more streamlined, a move that many companies later emulated. In 2024, we spun off our mining activities, establishing Naizak for Mining Services to meet the needs of City Cement. Mining is a key pillar of Saudi Arabia's Vision 2030, with significant untapped deposits of critical minerals that can serve various industries.

Saudi Vision 2030 is a significant, futuristic yet realistic, comprehensive vision that inspires confidence and provides clear direction for the country. The momentum on the ground is overwhelming, making Saudi Arabia stand out as a growing nation with strong economic potential and well-orchestrated programs.

Saudi Arabia's Vision 2030 has three major pillars: a vibrant society, a thriving economy, and an ambitious nation. Each pillar has clear objectives, managed by ministers, covering areas like human capability development, health, housing, financial sector development, industrial and logistics programs and sustainability. Each program is monitored and reported transparently with KPIs to ensure progress and to address challenges.

The fact is, you can't achieve those goals without cement. Saudi Arabia is now among the top 20 most competitive economies, ranking 16th in the IDA Competitiveness Yearbook, and standing 6th globally in economic performance. The non-oil GDP share has risen from 18% to 50%. Other improvements include a 30% rise in female workforce participation, a fall in unemployment from 12.3% to 7%, and a 5.7% growth in foreign direct investment.

City Cement and its subsidiaries are well-positioned to supply sustainable building materials while leading the cement industry specifically and the building materials sector generally in Saudi Arabia toward the implementation of the world's best practices and innovative technologies. City Cement will continuously redesign its business model, including expanding its alternative fuel infrastructure and digitising operations for improved efficiency, to uphold its commitment to realising Saudi Arabia's Vision 2030 and to ensure its business relevance to its shareholders. This is essential for the growth of Riyadh and of Saudi Arabia.

***GC:* Majed... many thanks for your time and insights today.**

MAO: You are very welcome!

Dusk at City Cement.