

Saudi Arabia's Cement Industry at a Crossroads: Balancing Vision 2030 Ambitions with Market Realities

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The cement industry in Saudi Arabia represents a critical case study in economic diversification, industrial policy, and sustainable development within the context of Vision 2030. This article presents a comprehensive analysis of the sector's structural dynamics, examining the interplay between macroeconomic ambitions, market realities, and regulatory pressures that define its current trajectory. With an installed production capacity of 85 million metric tons but utilization rates languishing at approximately 60% (Verma, 2024), the industry exemplifies the challenges of aligning industrial capacity with demand in an emerging post-oil economy.

This article identifies three primary forces reshaping the competitive landscape: First, demand-side drivers anchored in Saudi Arabia's unprecedented infrastructure expansion, including 3.1 trillion in planned construction projects spanning NEOM, the Red Sea Development, and national transportation networks (Sukuk Capital, 2024). These mega projects, central to Vision 2030's economic transformation agenda, are projected to sustain cement demand growth at a compound annual rate of 73.1% in planned construction projects spanning NEOM, the Red Sea Development, and national transportation networks (Sukuk Capital, 2024). These mega projects, central to Vision 2030's economic transformation agenda, are projected to sustain cement demand growth at a compound annual rate of 78.7% per ton of CO₂ emissions by 2027 (Bashir, 2023).

This article focuses on three dimensions, it extends the exploration on industrial policy in resource-dependent economies by analyzing how Saudi Arabia's dual objectives of economic diversification and decarbonization are reshaping a foundational industry. Second, it provides evidence on the effectiveness of market concentration as a response to chronic overcapacity, with implications for antitrust regulators. Third, it advances understanding of sustainability transitions in hard-to-abate sectors through detailed case analysis of alternative fuel adoption rates and carbon capture investments.

Introduction

The Saudi cement industry finds itself at a critical crossroads, caught between the powerful engines of Vision 2030's transformative ambitions and the harsh realities of market economics. As the Kingdom pours \$1.3 trillion into reshaping its infrastructure landscape (Ministry of Investment, 2024), cement producers navigate a complex terrain where unprecedented demand growth collides with structural oversupply and tightening regulatory constraints. This dynamic tension creates a fascinating case study in industrial evolution, where only the most agile and strategic players will emerge as winners in Saudi Arabia's new economic era.

Beneath the surface of booming construction activity lies a tale of two industries. On one hand, megaprojects like the 500 billion NEOM development, Qiddiya's 500 billion NEOM development, Qiddiya's 8 billion entertainment city, and programs to deliver 1.5 million new housing units are driving cement demand growth at a remarkable 7% compound annual rate through 2030. These visionary projects, central to the Kingdom's economic diversification strategy, should theoretically create ideal conditions for cement producers. Yet simultaneously, the industry struggles with a staggering 35 million tons of excess production capacity—a glut so severe it has depressed prices to near-breakeven levels and triggered government intervention against price collusion.

The challenges extend far beyond simple supply-demand imbalances. Saudi cement producers now operate in an environment where energy—once heavily subsidized—accounts for 40% of production costs following phased subsidy reforms. More ominously, the European Union's Carbon Border Adjustment Mechanism (CBAM) looms on the horizon, threatening to impose costs exceeding \$87 per ton of CO₂ emissions on Saudi cement exports (Bashir, 2023). These regulatory shifts are fundamentally rewriting the rules of competition, privileging producers who can combine operational excellence with sustainability leadership.

This convergence of factors creates both substantial risks and extraordinary opportunities. The coming years will likely witness a dramatic industry shakeout, where companies that successfully navigate this complex landscape through strategic consolidation, technological transformation, and sustainability innovation will capture disproportionate value. Those that fail to adapt risk becoming casualties of Vision 2030's creative destruction. For investors and

industry leaders, understanding these dynamics is not merely academic—it's essential for positioning in what remains one of the Kingdom's most strategically vital industries.

What follows is a comprehensive exploration of these transformative forces. We begin by examining how sustainability has evolved from compliance obligation to competitive imperative, then analyze the fierce battle for market share in an overcrowded sector. Finally, we assess how strategic mergers and technological leaps could reshape the industry landscape. Together, these insights provide a roadmap for navigating Saudi Arabia's cement sector through its most consequential transformation in decades—a transformation that will ultimately determine which players build the foundations of the new Saudi economy, and which get left in the dust.

Sustainability as a Strategic Imperative in Saudi Arabia's Cement Industry

The Saudi cement sector presents a fascinating paradox of immense potential constrained by structural challenges. With an installed capacity of 85 million tons (Verma, 2024), the industry operates in a fiercely competitive landscape where chronic underutilization of plants - ranging between 55-70% of capacity - has created significant pricing pressures. This oversupply situation, documented in the Economic Review of the Cement Sector in Saudi Arabia (2022), stems from both rapid capacity expansion and fluctuating demand cycles, forcing producers to navigate increasingly thin margins while simultaneously addressing growing sustainability mandates.

Market concentration reveals an intriguing dynamic, with five major players - Saudi Cement, Southern Province Cement, Yamamah Cement, Qassim Cement, and Yanbu Cement - controlling approximately half the market, while twelve smaller competitors divide the remaining share (Annual Report on the Saudi Cement Industry, 2021). This fragmentation intensifies competition, driving companies to differentiate through cost optimization, product quality enhancement, and technological innovation. The strategic importance of these differentiators has grown exponentially as producers face the dual challenge of maintaining profitability while investing in sustainable production methods.

Vision 2030's transformative projects are reshaping demand patterns across the sector. As shown in Figure 1 (Sukuk Capital, 2024), the construction sector alone accounts for 3,138 billion SAR of planned investments, with complementary infrastructure developments in

transport (351 billion SAR) and energy (308 billion SAR) creating additional demand streams. These projects are not merely construction initiatives but represent fundamental pillars of Saudi Arabia's economic diversification strategy (Saudi Arabia's Vision 2030: A Roadmap for Economic Diversification, 2016).

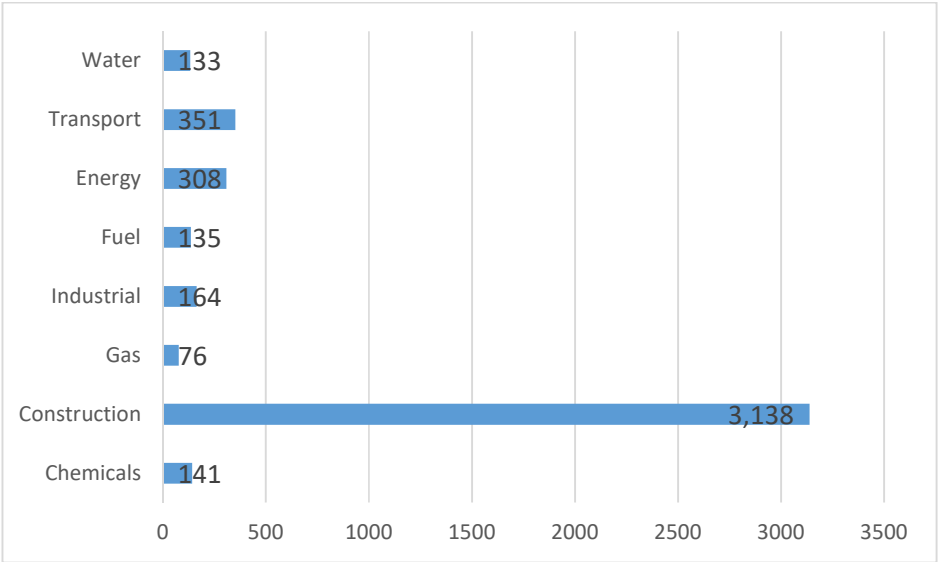


Figure 1: Saudi Mega projects value by sector- Value (billion SAR

Source : (Sukuk Capital, 2024)

The NEOM megacity project exemplifies this transformation. Spanning 26,500 square kilometers, this futuristic development combines smart city technologies with environmental sustainability across multiple sectors (NEOM: A Vision for the Future, 2021). Similarly, the Red Sea Project's luxury tourism focus (The Red Sea Project: A New Era in Luxury Tourism, 2022) and Qiddiya's entertainment city concept (Transforming Entertainment in Saudi Arabia, 2022) demonstrate how diversified demand drivers are emerging beyond traditional construction sectors. Even urban developments like King Salman Park (King Salman Park: A Green Oasis for Riyadh, 2023) and critical infrastructure such as the Saudi Land bridge Project (Saudi Land bridge Project: Enhancing National Connectivity, 2021) contribute to a complex demand ecosystem.

Current consumption patterns reveal residential construction accounts for 50% of cement use, with infrastructure projects at 30% and commercial/institutional buildings making up the

remaining 20%. This distribution underscores the sector's dependence on housing development and large-scale infrastructure, both of which are being transformed by Saudi Arabia's rapid urbanization and population growth. Projections of 7% CAGR in cement consumption through 2024 (*Cement in the AUCBM states, 2024*) suggest strong growth potential, though this optimism must be tempered by recognition of significant challenges.

The industry's path forward is complicated by multiple factors: volatile energy prices affecting production costs, labor market constraints, and evolving regulatory frameworks. Most critically, the sustainability imperative has moved from peripheral concern to central strategic focus. With current capacity utilization at just 60% despite 85 million tons of installed capacity and 22 production lines, producers must reconcile the need for operational efficiency with investments in greener technologies. This balancing act will determine which companies thrive in Saudi Arabia's evolving economic landscape, making sustainability not just an environmental consideration, but a fundamental business imperative for the cement sector's future.

Industry Competitiveness in Saudi Arabia's Cement Sector

The Saudi cement industry faces a pivotal moment as Vision 2030's ambitious development agenda drives demand while market imbalances challenge competitiveness. With construction activity surging, cement consumption is projected to grow at a 7% CAGR through 2030 (*Cement in the AUCBM States, 2024*), fueled by residential (50%), infrastructure (30%), and commercial (20%) projects (*Verma, 2024*).

However, the sector struggles with structural inefficiencies, including an 85-million-ton installed capacity against just 60% utilization (*Verma, 2024*). This oversupply has intensified price competition, pressuring profitability. While Vision 2030 megaprojects like NEOM promise long-term demand, the industry must reconcile excess capacity with sustainable growth strategies. Balancing expansion with operational efficiency will be crucial for cement producers navigating this transformative phase.

The Saudi cement sector faces a complex interplay of competitive strengths and structural challenges. Domestic producers benefit from government-subsidized energy and strategic proximity to high-growth construction markets, coupled with policy support for sustainability

initiatives (Nader, 2024). However, these advantages are offset by aging production infrastructure requiring technological modernization, particularly in energy-intensive clinker manufacturing, and rising operational costs driven by labor market constraints.

Emerging opportunities could help reconcile these tensions. The adoption of circular economy practices—such as converting urban waste into alternative fuels—promises to reduce energy expenses by 15-20% while advancing sustainability goals (Nader, 2024). Digital transformation through automation and data analytics could boost productivity by 25-30%, and developing low-carbon cement variants may create competitive advantages in environmentally conscious export markets.

Yet significant threats loom. The EU's Carbon Border Adjustment Mechanism (CBAM) threatens to impose \$87/ton CO₂ costs on exports, eroding price competitiveness (Bashir, 2023). Domestically, energy subsidy reforms and stringent efficiency standards (<750 Kcal/kg clinker) demand substantial capital investments, compounded by the transition from heavy fuel oil to LNG (Nader, 2024).

To route this landscape, producers must prioritize strategic consolidation to optimize capacity, accelerate operational upgrades for energy efficiency, and innovate sustainable product lines. Export diversification to neighboring markets with growing infrastructure needs could mitigate EU trade risks. Success will depend on balancing cost competitiveness with sustainability imperatives, leveraging technological advancements, and adapting to evolving regulations. As Vision 2030 progresses, the sector's ability to align with national diversification objectives will serve as a critical indicator of Saudi Arabia's broader economic transformation.

Market Concentration Dynamics in Saudi Arabia's Cement Industry

The Saudi cement market currently comprises 17 active players operating in a fiercely competitive landscape. This market structure can be quantitatively analyzed using the Herfindahl-Hirschman Index (HHI), a widely recognized measure of market concentration that ranges from 0 to 10,000 points (or 0 to 10 when using a simplified scale). The HHI serves as a critical barometer of competitive intensity, where lower values indicate fragmented markets

with numerous competitors, while higher values suggest concentrated market power among fewer dominant firms.

In the Saudi context, the cement industry demonstrates an HHI score below 0.7, firmly placing it in the category of a highly competitive market structure. This low concentration index reveals several important characteristics about the sector's dynamics, see figure 2. First, it confirms that no single producer holds dominant market share or pricing power. Instead, market influence is distributed relatively evenly across multiple competitors, creating what economists would classify as near-perfect competition conditions.

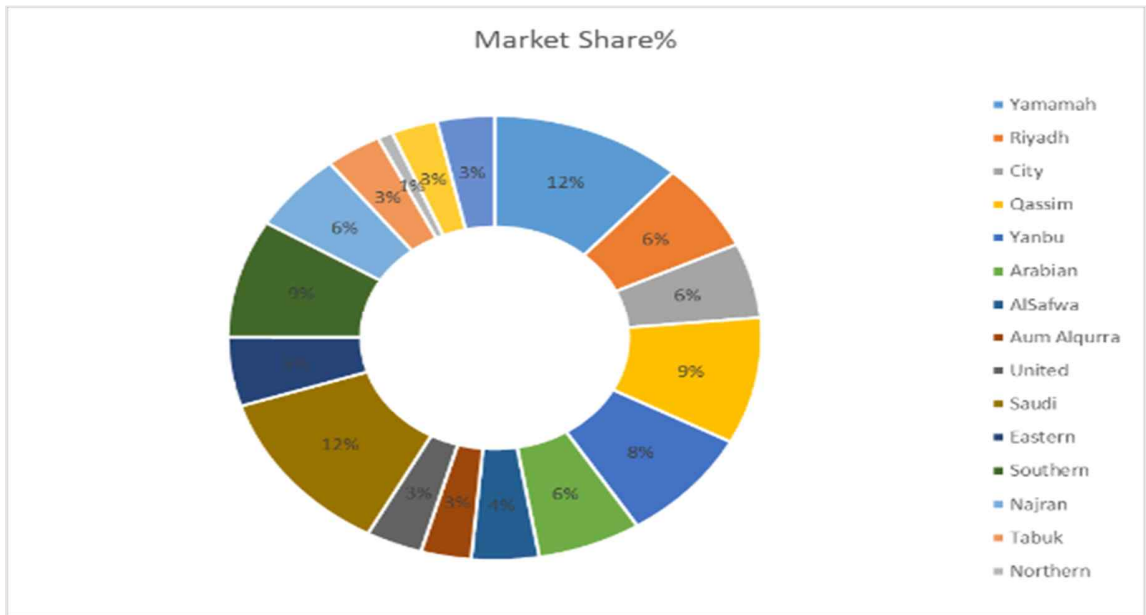


Figure (2) : Cement factories market share during 2023

Source: Sukuk Capital. (2024)

Saudi Arabia's cement sector remains highly fragmented, with 17 active producers sharing the market and no single dominant player, as illustrated in Figure 2 (Sukuk Capital, 2024). The Herfindahl-Hirschman Index (HHI) score below 0.7 confirms this low market concentration, with the top five producers—including Saudi Cement and Yamamah Cement—holding a combined 45-55% share, while smaller firms divide the remainder in 2-

7% allocations. This fragmentation has fueled intense competition, pressuring margins as companies compete for Vision 2030-related projects and private sector contracts.

Geographic factors further shape the competitive landscape. Plants near major demand centers like Riyadh and Jeddah benefit from logistical advantages, while remote facilities face market share challenges despite comparable capacity. Recent mergers, such as Yanbu Cement and Southern Cement's consolidation, are beginning to reshape the sector, though fragmentation persists compared to global markets where 3-5 players typically dominate 70-80% of capacity.

Drivers and Implications of Consolidation

The industry's gradual consolidation, reflected in the HHI's rise to 0.7, stems from multiple factors: economic pressures from overcapacity, stricter environmental regulations favoring larger players, and Vision 2030's push for industrial efficiency. Notable mergers—including Qassim Cement's acquisition of Hail Cement and City Cement's combination with Umm Al-Qura Cement—signal this shift. The proposed Yanbu-Southern Cement merger (16% combined capacity) could further elevate the HHI toward 2.3 by 2030, transitioning the market to an oligopolistic structure (Abdou & El Adaway, 2018).

This consolidation promises improved pricing stability, higher capacity utilization, and greater investment in sustainability. However, it also necessitates regulatory oversight to prevent excessive market power. The Public Investment Fund's (PIF) stakes in four major producers underscore a strategic approach to sector rationalization, aligning with Vision 2030 objectives.

Strategic Outlook

As the industry evolves, companies must position themselves either as consolidators or niche players. While increased concentration may enhance efficiency, maintaining competitive fairness and innovation remains critical. The cement sector's transformation mirrors Saudi Arabia's broader economic ambitions, with its future structure likely to balance consolidation benefits against the needs of a construction-driven economy. Stakeholders must navigate this transition carefully to ensure long-term sector resilience and growth.

Navigating Challenges and Opportunities in a Transforming Industry

The Saudi cement sector presents a complex interplay of significant challenges and substantial growth opportunities as it evolves within the Kingdom's ambitious economic transformation framework. While Vision 2030's unprecedented infrastructure development program creates robust demand prospects, the industry must simultaneously address structural issues including chronic overcapacity, with utilization rates languishing near 60%, and the financial pressures stemming from intense competition and regulatory compliance costs.

The current market structure, reflected in an HHI below 0.7, demonstrates the sector's historically fragmented nature, which while beneficial for consumer pricing, has proven unsustainable for producer profitability. The emerging consolidation trend represents a strategic response to these challenges, aiming to create more efficient, competitive entities capable of weathering market volatility while meeting the Kingdom's development needs. As these mergers progress, the anticipated movement of the HHI toward 2.3 will signal an important structural shift toward oligopolistic conditions that may improve sector stability without compromising healthy competition.

Demand dynamics in the sector remain closely tied to macroeconomic factors, particularly government expenditure patterns and oil price fluctuations, which influence construction activity levels. The price elasticity of cement demand exhibits both elastic characteristics during normal market conditions and inelastic properties during peak construction phases, requiring producers to adopt sophisticated pricing strategies responsive to these varying market conditions.

Looking forward, the industry's success will hinge on its ability to balance several critical priorities: rationalizing excess capacity through strategic consolidation, investing in sustainable production technologies to meet environmental regulations, and optimizing operations to compete effectively in both domestic and export markets. The sector's alignment with national development goals, combined with its essential role in building Vision 2030's physical infrastructure, positions it for long-term resilience and growth despite near-term challenges. Ultimately, the Saudi cement industry stands at an inflection point where strategic consolidation, operational excellence, and sustainability innovation will separate future market leaders from

marginal players. Those companies that successfully navigate this complex transition will be well-positioned to capitalize on the Kingdom's construction boom while contributing to its broader economic diversification objectives, ensuring their relevance in Saudi Arabia's post-oil economic future.

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