CEMENT is a producer with modern manufacturing technologies and skills in critical functions, including production, distribution and sales. The associate’s success in the fiercely competitive building materials sector was achieved through the key enablers described on page 49. The enablers contributed to the CEMENT value creation process by ensuring that the company remains competitive and maintains acceptable sales volumes.
CEMENT’S KEY ENABLERS

New quarry, easier mining
Securing a limestone resource and opening a new open-cast single-bench quarry with reserves at shallow depths and low stripping ratios are vital to saving on mining costs, and create a competitive advantage. The quarry at Aganang is approximately 1 km from the plant with shallow, single-bench limestone at depths of seven to 15 metres. At full capacity, the quarry will extract 3 million tonnes of limestone to produce 1.85 million tonnes of clinker.

Efficient grinding, better cement
CEMENT plants are designed with the latest vertical roller milling technology to grind clinker and other additives into cement. This technology enables the associate to produce consistent quality cement in all strength classes. The Aganang integrated plant has three vertical, namely raw, coal and cement mills. The vertical mills are generally 20% to 35% more efficient than the standard ball mills, which are common in some competitors’ plants.

Strong focus on quality
CEMENT plants are equipped with the latest quality control systems to ensure a high-quality final product from the quarry to the cement mills. Quality control commences at in situ drilling of limestone prior to blasting. The crushed limestone and other raw materials are scanned by gamma ray analysers to ensure a consistent, high-quality mix prior to further homogenising. Product samples are automatically collected at different points of the production line and delivered to the on-site robot-controlled laboratory for analysis.

Good emissions control
CEMENT plants are designed to perform at a higher standard than European requirements to restrict emission levels of dust, noise and other forms of pollution. As environmental legislation tightens in Africa, competitors with old, inefficient and environmentally unfriendly plants will need to invest in improvements or retire poorly performing plants. To date, the Aganang and Delmas plants have recorded emissions of between 3 mg/Nm³ and 16 mg/Nm³, which is well below the guaranteed 30 mg/Nm³.

Efficient plants
CEMENT’s plants have the latest production technology and are efficient, with an average of 0,3 man hours per tonne sold. Modern technology enables CEMENT to manufacture a good quality, strong brand of cement that competes well with the brands that historically supplied the markets.

The use of a large modern rotary kiln equipped with a five-stage preheater and a pre-calciner enables CEMENT to reduce the cost of production and minimise carbon emissions inherent in the cement manufacturing process. Aganang has the largest single kiln in South Africa, with a capacity of 6 000 tonnes of clinker produced per day. The energy efficiency of CEMENT’s core operations is between 85 and 90 kWh/tonne of cement, depending on product mix.

Careful selection of markets
The growth in the bagged cement market was achieved through an innovative approach to segmenting the customer base. The associate has approximately 80% sales volume in bags, which is well aligned to the estimated national demand mix. In 2016, CEMENT was able to further enhance its understanding of the different provincial markets, thereby improving the average pricing.
OPERATING ENVIRONMENT

Industry domestic produced cement sales tonnes decreased by 2.7% to 12.6 million tonnes for 2016 on a year-on-year basis, as estimated by Econometrix\(^1\). Total sales volumes decreased by 5.6% to approximately 13 million, including an estimated 390 kt (2015: 820 kt) of imports. Imports volumes from Pakistan decreased by 90% to 77 kt while imports from China increased by 300% to 311 kt due to tariffs imposed by the International Trade Administration Commission (ITAC) in December 2015, which were specific to Pakistan.

The South African construction industry continues to transform from being dominated by the major construction companies to having numerous second and third-tier businesses. Based on CEMENT’s research, this transformation was largely influenced by the macroeconomic downturn conducive for companies with the ability to accept small construction projects. In addition, a proactive government campaign to promote job creation through SMEs, with a particular emphasis on black economic empowerment, resulted in the increase of construction companies, targeting government projects such as provincial schools, hospitals and water storage facilities.

The competitive environment and changes to the customer characteristics propagated dynamic and geographically differentiated pricing, with manufacturers focusing on improving efficiencies and marketing efforts.

Challenges

The operational challenges during the financial year ended December 2016 were as follows:

- Increased price competition, particularly in inland markets:
  - CEMENT developed several differentiated strategies to defend sales volumes while enhancing sales and marketing skills.

- Increased community expectations placed a high demand on resources:
  - Identifying appropriate leaders to engage with was a challenge, but CEMENT created several engagement platforms to address community concerns such as employment opportunities.
  - The EDPs continued to strengthen CEMENT’s social licence to operate and relationships with local community leadership and government.

- Increased competition for critical skills:
  - A succession and retention plan was developed and continues to be implemented.
  - Targeted training was provided for critical skills to increase the talent pool.

The market comprises mainly bagged cement at between 70% and 80% due to limited activity in the bulk use market. Gauteng is the largest cement demand market, estimated at 4 million tonnes per annum (mtpa), and is therefore highly contested through competitive pricing, resulting in lower margins.

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1 Econometrix Quarterly Cement Outlook, Q2 2017, June 2017.
OPERATIONAL PERFORMANCE OVERVIEW

Highlights

- Sales volumes increased by 4%
- EBITDA increased by 4.3%

CEMENT achieved an increase of 4% in sales volumes for the financial year ended December 2016 in a competitive environment. It defended its position as one of the major cement producers in South Africa. The associate's average cement price decreased by 4.6% resulting in flat revenue at R2,28 billion (2015: R2,29 billion). The EBITDA margin increased to 23.1% (2015: 21.9 %) and net profit increased by 37% to R68,9 million (2015: R50,4 million).

As illustrated in the graph, the average pricing for bagged cement indexed from January 2016 to the end of December 2016 was mainly flat. The average bulk cement pricing was 13% lower by the end of December 2016; however, it has been on an upward trend since January 2017. When indexed to January 2017 (below), an increase in average pricing of 3% for bagged cement and 6% for bulk cement was recorded by May 2017.

Plant overview

The plants performed well in terms of the overall equipment effectiveness of the mills at both Aganang and Delmas. The plants combined achieved a net OEE of 115% to 130% for the mills as a result of the excellent performance against specification.

Aganang

The integrated plant achieved a kiln net OEE of 78% (target: 96%) which was the same as recorded for the previous year. The 9% of the 18% variance against the budgeted net OEE was due to some latent defects on specific components of the plant,
which were resolved with Sinoma during the plant handover. The plant production output was in line with demand and therefore the variance did not impact the associate’s profitability.

**Optimisation programme**

The programme was initiated in November 2015 to target four operational areas, namely logistics, raw materials, production and sales, for enhancing cost efficiencies. Optimising these functions was collectively targeted to improve the EBITDA margin by 5% to 7% in the foreseeable future. Although the continued decrease in prices limited the positive impact on the EBITDA margin, the associate achieved R57 million (50%) of the targeted R115 million cost saving by the end of December 2016. CEMENT aims to complete the programme by the end of December 2017.

**HUMAN CAPITAL OVERVIEW**

CEMENT made good progress towards achieving its employment equity goals, and in some instances exceeded the targets for the representation of black individuals and people with disabilities.

**Employee review**

The total employee complement as at 31 December 2016 was 399 including 14 learnerships. The learnerships are in the technical and administrative support functions. Nine of the 14 learners were sponsored by the Mining Qualifications Authority.

The employee turnover rate was consistent with the previous year at 10,9%, mainly because of the departure of employees with less than two years’ tenure in the semi-skilled category. A lower turnover rate was recorded for the professional category, which comprises employees who occupy core functions at below 1% (2015: 5%). The reasons for resignation included relocation, entrepreneurial ventures, higher remuneration and career growth prospects.

CEMENT remains committed to retaining employees, with particular emphasis on those with critical skills, and to effectively managing talent. To this end, the long-term retention scheme was fully implemented to secure the skills of targeted employees. Learning interventions, including on-the-job training, classroom training and seminars, were done. Management development programmes to build a succession pipeline were implemented for employees identified for critical positions. The associate has a relatively young, experienced workforce with an average age of 35 years.
Executive committee
A 360-degree assessment tool was administered on the executive committee to determine leadership effectiveness and identify any developmental initiatives required. The assessment revealed that CEMENT has competent managers who understand the strategy and are committed to achieving the business objectives. To address the key concerns highlighted by employees during the climate survey implemented in the previous year, the executive committee conducted three roadshows to all operations during the year. The objectives of the roadshows were to:
- improve management engagement and provide a platform for employees to ask questions;
- promote the strategy and key performance targets; and
- improve awareness of the strategic intent and understanding of the business model.

At 30 December 2016

Chief executive officer
BCom (Accounting), Executive Development Programme (PRISM) for Global Leaders (Switzerland)
Pieter has extensive experience in the cement industry and assumed his position as chief executive officer of CEMENT on 1 May 2007.

Finance director
BSc (Hons) (Economics) (Ahmadu Bello University, Nigeria), FCA (Fellow of the Institute of Chartered Accountants of Nigeria)
Suleiman started his career with the then Price Waterhouse. He joined the Dangote group in 1991 as head of internal audit and financial services. Suleiman is employed by Dangote Industries Limited (Nigeria) as executive director (finance). He is on a fixed contract at Dangote Cement South Africa as the finance director since 21 August 2014. Suleiman has over 33 years of experience and has retired as a member of several boards in the Dangote group.
Business review: Dangote Cement South Africa continued

Chief financial officer

BCom (Hons) (University of Pretoria), CTA (University of South Africa), CA(SA)

Gay has experience in several fields, ranging from finance, operations and risk management. She previously worked for Clover Danone before joining CEMENT on 1 July 2009.

Executive manager operations

BEng (Metallurgical Engineering) (University of Pretoria), Young MDP (INSEAD, France), MDP (Duke University, USA)

Duan completed his graduate engineer training at De Beers before joining Blue Circle Cement. He was involved with Blue Circle Cement’s integration into Lafarge in 1996. He subsequently worked for PPC before joining CEMENT on 1 January 2008.

Executive manager projects

BEng (Mechanical) (PUCHE), MDP (PUCHE), LDP (GIBS)

Heinrich started his career as a project engineer and maintenance manager at Mittal (Iscor) before joining Lafarge, where he held various positions. Heinrich joined CEMENT on 1 June 2008.

Executive manager organisation performance

MPhil (RAU), BA (Hons), BAED (University of Venda)

Robert is a social scientist with a career that spans 16 years. He has extensive experience in managing and implementing social transformation. Robert worked for the De Beers group for over five years, where he was part of the team responsible for driving the company’s transformation process and its corporate social responsibility programme. Robert joined CEMENT on 1 April 2009, and was appointed to this position on 1 November 2016.

Company secretary

Jennifer has been employed by various legal practices as a paralegal. She was previously company secretary for the Platmin group. Jennifer joined CEMENT on 1 August 2010.
Skills development and training
CEMENT recognises the long-term benefits of up-skilling employees, and has invested R5 million (2015: R4 million) in employee training, which represents 2.2% of the 2016 financial year’s payroll costs. CEMENT’s expenditure target for training and development over the next four years continues to be 3% of the annual payroll. The skills development programme included disability learnerships, internships and mentorships.

Job coaching and mentoring are acknowledged as crucial components in the development of all employees, and critical for succession planning. In this regard, the company identified and trained 12 managers in various functions as coaches and mentors during the year.

Supervisors were targeted for management development programmes as they drive strategy, and it is imperative that they are capacitated in leadership skills. All employees, including contractors, were trained on safety, with the aim to minimise workplace incidents and prevent injuries.

Employment equity
The CEMENT five-year employment equity (EE) plan that commenced in September 2013 represents the ongoing and sustained commitment to the elimination of discrimination and to achieve equitable representation. CEMENT strives for a workplace that reflects the national economically active population across all occupational levels.

CEMENT made good progress towards attaining its EE goals, and in some instances exceeded the targets for the representation of black individuals and people with disabilities. However, the progress towards gender representation of women was less satisfying due to lack of skills. The review and analysis of the employment equity confirmed that African women in particular remain under-represented at most occupational levels, particularly at junior management. African men are under-represented at top and senior management, therefore a majority of these men were placed into the long-term incentive scheme to increase the pool for succession.
Employment equity targets as at December 2016

<table>
<thead>
<tr>
<th>Occupational levels</th>
<th>Black</th>
<th>Coloured</th>
<th>Indian</th>
<th>White</th>
<th>Total</th>
<th>Target EE %</th>
<th>Actual EE %</th>
<th>Actual black %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>T</td>
<td>M</td>
<td>F</td>
<td>T</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Executive management</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Senior management</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Middle management</td>
<td>14</td>
<td>6</td>
<td>20</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Skilled (junior management)</td>
<td>49</td>
<td>29</td>
<td>78</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Semi-skilled</td>
<td>42</td>
<td>24</td>
<td>66</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unskilled</td>
<td>102</td>
<td>27</td>
<td>129</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total permanent</strong></td>
<td>211</td>
<td>86</td>
<td>297</td>
<td>7</td>
<td>3</td>
<td>10</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Fixed-term contractors</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Learnerships</td>
<td>10</td>
<td>3</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>224</td>
<td>90</td>
<td>314</td>
<td>7</td>
<td>3</td>
<td>10</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Labour relations
CEMENT recognises that employees are entitled to freedom of association and respects their right to collective bargaining. At the end of 2016, AMCU secured a membership of 70% of the employees at Delmas and 51% at Aganang plant. AMCU was given the statutory organisational rights at both operations. CEMENT plans to afford AMCU central bargaining rights to streamline negotiation processes for employees.

Health and safety
There were no fatalities at any of CEMENT’s operations (2016: 0). The lost-time injury frequency rates were 0.19 at Aganang (2015: 0.11), zero at Delmas (2015: 0) and zero at Sephaku Ash (2015: 0).
CEMENT remains committed to preventing injuries and ensuring the wellbeing of employees through a health and safety monitoring system. The monitoring system was regularly reviewed during the year to ensure compliance to all safety rules. Furthermore, the protection of plant visitors was given priority. The health and safety objectives were reviewed regularly, particularly as they relate to dealing with potential risks. CEMENT continued to apply the wellness framework, employee assistance programme, promote a healthy lifestyle for employees and to assist those failing to achieve their tasks due to personal and/or work-related challenges. The programme aims to provide the following services to employees and their immediate families:

- Telephonic (24/7/365) and face-to-face counselling
- Trauma support and stress debriefing
- Life management including legal, financial and family support
- Comprehensive online wellbeing services

Managers, supervisors and team leaders receive comprehensive briefing and training from external facilitators to enable them to adequately deal with cases they encounter in their daily operations.
BROAD-BASED BLACK ECONOMIC EMPOWERMENT
CEMENT achieved full points on enterprise and supplier development as well as socio-economic development elements for the B-BBEE certification. The company dropped from a level 5 B-BBEE status due to increased compliance targets related to ownership, skills development and employment equity as stipulated in the revised codes. CEMENT is required to achieve a 40% sub-minimum in all three priority elements, with non-compliance penalised by being discounted one level. The associate did not achieve the required sub-minimum on ownership and was therefore discounted to a level 6.

Torosesha, the broad-based empowerment structure established in 2014, has yet to finalise the election of two community-based directors to participate on its board. The election process was planned for the end of 2016 but was suspended due to illegal protests by the community over various matters, including job creation in the area. The Department of Rural Development and Land Reform committed to intervene on the impasse to enable CEMENT to finalise the structure in the 2017 calendar year. The North West Premier set up a task team to resolve these community leadership issues.

Torosesha owns 15% of the ordinary shares in Sephaku Development Proprietary Limited (SepDev), which is a subsidiary of CEMENT, and generates income from mining activities. This income will be used to implement community development initiatives when the board of directors is constituted and the requisite statutory processes are complete. The directors of Torosesha will be responsible for identifying how the income from SepDev is used in line with its memorandum of incorporation for the benefit of communities of Verdwaal and Springbokpan.

COMMUNITY UPLIFTMENT
CEMENT is committed to active community engagement and to making a sustainable contribution to the communities in which it operates.

Enterprise and supplier development programme (EDP)
The EDP is aimed at developing SMEs in the communities where CEMENT operates. CEMENT invested R83.6 million (2015: R46.4 million), through procurement opportunities from the EDP participants, for services including transport, plant cleaning and catering. These enterprises employed a total of 203 individuals, of which 23% were female and 56% were below 35 years old.

The beneficiaries of the programme were regularly trained on business management skills, including cash flow management, sales and marketing. They were equipped with knowledge of the regulatory requirements, such as tax compliance, through structured coaching and mentorship. Selected beneficiaries are supported through grants, early payment of invoices within 15 to 20 days, and facilitation of access to funding.

To enhance the sustainability of the EDP transport beneficiaries, CEMENT awarded long-term logistics contracts to supply raw materials transportation services. Seven of the beneficiaries are from Lichtenburg and five from Delmas, selected based on their capacity and potential to carry out the task. These trucking opportunities have an estimated total annual revenue of between R80 million and R100 million, translating to approximately R430 million over a five-year period.
EDP beneficiaries’ profiles

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of jobs created</th>
<th>Details</th>
</tr>
</thead>
</table>
| Logistics and transportation      | 122                    | 19 beneficiaries identified:  
  • 14 from Lichtenburg and five from Delmas  
  • 12 beneficiaries signed five-year supply agreements with CEMENT for the transportation of raw materials  
  • Seven beneficiaries from Lichtenburg were identified to provide employee transportation |
| Plant cleaning and cement recoveries | 50                     | Two beneficiaries identified, one for each plant:  
  • The Delmas beneficiary is 100% black-women-owned.  
  • These enterprises permanently employ a minimum complement of 50 employees, with the number doubling during peak periods. |
| Office support cleaning           | 14                     | One beneficiary from Springbokpan village has been providing services at the Aganang plant since 2014.                                                                                                    |
| Catering                          | 17                     | Two beneficiaries identified, one for each plant:  
  • Both enterprises are 100% black-women-owned.  
  • The enterprises cater meals for 296 employees at both plants for the day and night shifts.                                                   |
| **Total jobs created**            | **203**                |                                                                                                                                                                                                       |

Social and labour plan

The social and labour plan (SLP) is a regulatory requirement of the Mineral and Petroleum Resources Development Act, 28 of 2002 (MPRDA). It is essentially an implementation document consisting of strategies and targets on how the associate will contribute to employment creation and advancement of the socioeconomic welfare of HDSAs in the local communities in which it operates. The SLP has a five-year tenure to ensure relevance to the prevailing socioeconomic issues at any given time. CEMENT achieved two milestones against its initial SLP as detailed below, and completed the new SLP to cover the period 2017 to 2021, commencing in the fourth quarter of 2017.

Final implementation update on initial SLP projects

<table>
<thead>
<tr>
<th>Project name</th>
<th>Status</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Pallet handling and repair facility   | Completed December 2016     | • CEMENT partnered with a local SME to manage the facility  
  • The SME will start training in management and administration when the operations commence in September 2017  
  • The facility will employ 12 people at full production |
| Verdwaal bakery and community hall    | Completed December 2016     | • Infrastructure completed and recruitment of seven people from the local community in September 2016  
  • Delays in commencement of operations due to incomplete electricity infrastructure |

The new SLP for the period 2017 to 2021 will focus on the development of a brick and block manufacturing facility; sports and recreational facility; and agro-processing facilities.
Community skills development
CEMENT continued to offer skills development opportunities in line with the SLP as detailed in the table below.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Progress to date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate training programme</td>
<td>• The programme continued during the year with seven local graduates who enrolled in 2015 in the technical and engineering fields.</td>
</tr>
<tr>
<td></td>
<td>• The training programme is supported through a partnership with MQA which provides financial resources for the trainees while CEMENT provides a practical and structured mentorship programme.</td>
</tr>
<tr>
<td>Women development programme</td>
<td>• Two of the three women participating in the programme based at Aganang to accelerate their career into management roles, were promoted during the year.</td>
</tr>
<tr>
<td></td>
<td>• Another participant was added in 2016.</td>
</tr>
<tr>
<td>Apprentice training and learnerships</td>
<td>• The artisan training programme progressed well, with one of six employees from a local community graduating at the end of 2016.</td>
</tr>
<tr>
<td></td>
<td>• The other five artisans are expected to graduate at the end of 2017.</td>
</tr>
<tr>
<td>Bursaries and internships</td>
<td>• Two of the six students graduated in chemical engineering and chemistry.</td>
</tr>
<tr>
<td></td>
<td>• 20 additional unemployed youth from local communities were awarded bursaries to study engineering and business management at the Taletso FET College in Mahikeng.</td>
</tr>
<tr>
<td></td>
<td>• The objective is to build a pool for the CEMENT artisan training programme.</td>
</tr>
<tr>
<td></td>
<td>• The five disabled youths on the learnership programme since 2015, focusing on finance and information technology, will complete the programme at the end of 2017.</td>
</tr>
<tr>
<td>Educational support</td>
<td>• CEMENT is currently funding extra mathematics and science education programmes at Tswelelopele High School at Itsoseng.</td>
</tr>
<tr>
<td></td>
<td>• 600 students from grades eight to 12 participate in the programme annually, and the students are reported to have an enhanced understanding of the subjects.</td>
</tr>
<tr>
<td>Leadership skills training</td>
<td>• 32 community leaders from Springbokpan, Verdwaal 1 and Verdwaal 2 were trained in the following learning areas:</td>
</tr>
<tr>
<td></td>
<td>• Ethics and behaviour of a leader</td>
</tr>
<tr>
<td></td>
<td>• Effective communication of a leader</td>
</tr>
<tr>
<td></td>
<td>• Effective conflict resolution</td>
</tr>
<tr>
<td></td>
<td>• The social transformation system, a practical tool for community development</td>
</tr>
</tbody>
</table>
Key community challenges

<table>
<thead>
<tr>
<th>Key challenge</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of legitimate community leadership structures to enable conclusive decisions on key matters, including: • Election of directors to the empowerment structure Torosesha • SLP engagement • Land utilisation options</td>
<td>This community leadership vacuum limited the extent of engagement, which often culminated in community protests due to lack of information. CEMENT engaged provincial and national government officials to facilitate the reconstitution of community leadership structures by the end of 2017. The Minister of Rural Development and Land Reform committed to support CEMENT by ensuring the community leadership structures are formalised to effectively implement community investment initiatives. The department commenced a process to establish a communal property association within Kopano. CEMENT continues to engage the communities through Kopano Community Authority, the department and the Ditsobotla municipality, until legitimate community structures are re-established. The North West Premier established a task team to accelerate the processes of establishing leadership structures.</td>
</tr>
<tr>
<td>Deterioration of the Aganang access road</td>
<td>The access roads to and from the Aganang plant are degraded as a result of the volume of haulage traffic between Aganang and Lichtenburg. The Department of Public Works and Roads committed to mend the road during the previous year as it is a hazard to drivers. Numerous employees use the road to the Aganang plant on a continuous basis. CEMENT plans to take legal action to compel authorities to attend to the road urgently.</td>
</tr>
</tbody>
</table>

NATURAL CAPITAL OVERVIEW

CEMENT’s environmental management strategy focuses on water consumption, energy efficiency and mitigating point and non-point source emissions.

Highlights

- Aganang plant installed a continuous gas analyser on the preheater stack in September 2016
- Delmas plant was granted a variation application atmospheric emission licence in November 2016.
CEMENT is committed to achieving a high standard of environmental performance and to upholding sound principles of sustainable development. The company believes that robust environmental management systems with a proactive approach to addressing the challenges and harnessing opportunities of climate change, are fundamental to overall operational success. The environmental policy commitment includes:

- aligning the environmental goals and objectives with the business strategy;
- developing, implementing and maintaining an environmental management system aligned with the broader business principles and standards;
- developing employees to manage and be accountable for excellence in environmental performance in their areas of responsibility;
- continually improving environmental performance by measuring and reviewing the effectiveness of and compliance to the environmental management system;
- allocating appropriate resources to achieve targets and undertake periodical reporting of performance to regulatory authorities;
- demonstrating an understanding of environmental accountability and leadership at all levels of management; and
- planning, designing and closing operations to enhance sustainable development.

**Environmental management strategy and compliance**

Cement manufacturing is highly regulated by laws governing the environment. CEMENT strives to improve compliance with the requisite legislation and complies with all environmental licences and permits.

CEMENT’s environmental management strategy focuses on water consumption, energy efficiency and mitigating point and non-point source emissions. The Aganang and Delmas plants were designed to have limited environmental impact, with several mitigation measures developed for potential risks, such as dust and noise pollution. Water consumption and waste generation are monitored and measured periodically, in line with legislative requirements.

The potential reputational and financial implications of non-compliance with the evolving environmental regulatory framework are significant, as are the direct and indirect costs of ensuring compliance.

**Operating licences**

Monitoring programmes were developed to ensure that Aganang and Delmas plants comply with the permits below.

**Environmental management programme (EMPR)**

The purpose of the EMPR is to ensure that social and environmental impacts, risks and liabilities identified during the environmental impact assessment process are effectively managed during the construction, operational and closure phases of the mine.

**Atmospheric Emission Licence (AEL)**

An AEL was issued in terms of the National Environmental Management: Air Quality Act, which stipulates emission limits for nitrogen oxide, sulphur dioxide and particulate matter. The Aganang plant was originally issued with a provisional AEL, which was converted into a full licence in July 2016.

**Continuous emission monitors**

Continuous emission monitors for the kiln and cooler stack were installed at Aganang and were commissioned in September 2016. They enable the plant to regularly monitor pollutants such as nitrogen dioxide, sulphur dioxide, hydrogen chloride and hydrogen fluoride as required by the AEL.

CEMENT recorded remarkable results due to the modern technology that enables the plants to perform well. The air emissions recorded were between 3 mg/Nm³ and 16 mg/Nm³ against the permit standard of 30 mg/Nm³ for dust.
Fugitive dust emissions

Fugitive dust emission plans were submitted to the authorities for all operations during the licensing process. The objective of these plans is to set up measures for dust control, primarily from process fugitive emission sources that include materials handling and raw milling. These plans are internally managed through routine audits and reports are submitted to authorities.

Integrated Water Use Licence (IWUL)

CEMENT recognises the importance of contributing to the current government water security measures, and adopts a holistic approach to water stewardship. The plants have IWULs from the Department of Water Affairs. CEMENT implemented the requirements of the licence, such as monitoring water balance, storm water management, and conducting internal and external audits. The operations have water balances in place to manage and optimise water use, and run closed circuit water systems to maximise recycling and minimise discharge into the environment.

Process and clean water were separated to enable the operations to recycle the former for further use at plants. Water quality was regularly monitored to assess the potential impact of the process water on the environment in the event of the use of the evaporation dam. The monitoring provides an early-warning system for when mitigation action is required, and to measure compliance with licence conditions. Monitoring was performed through ground water and surface water sampling.

CEMENT regularly monitored the quality of ground and surface water levels. The company performed bio-monitoring of aquatic environments when necessary.

Waste Management Licence (WML)

The Aganang plant was awarded a waste licence in January 2016, which permits CEMENT to use energy-intensive materials, such as by-products from the steel manufacturing, energy and other industries. This can translate to a significant saving in energy consumption and a reduction in carbon footprint. To enhance the integrity of the waste management monitoring system, the CEMENT operations are registered on the South African waste information centre.

Non-process waste management at the plants required effectively monitoring three phases, namely sorting, recycling and disposal. These activities ensure compliance with the relevant waste legislation and minimise the impact on the natural environment and surrounding communities. Waste reports were compiled at all operations that detail the source, volume, type and disposal method of waste.

Domestic waste was disposed in licensed municipal landfill sites, or recycled through various external entities. Hazardous waste, such as used oil, was recycled through specialist service providers, and oil-contaminated material and used filters were delivered to registered waste-disposal facilities. CEMENT was awarded safe disposal certificates.
Carbon tax bill
CEMENT supports the government’s drive towards becoming a low-carbon economy and continues to engage with industry bodies and policymakers to ensure that the proposed regulatory mechanisms achieve this goal while supporting local industry to be internationally competitive. CEMENT is actively involved in the consultative processes of establishing the appropriate tax regime, and several factors are still to be finalised to determine the reporting structure. As part of the voluntary reporting commitments under the Association for Cement Manufacturing Producers’ Sustainability Initiative, CEMENT submitted a carbon budget to the Department of Environmental Affairs that is well aligned to the stipulations of the carbon tax allowance.

There are several subordinate laws and regulations to the bill, highlighted below.

Carbon budget
The carbon budget approach uses quantity-based policy instruments to achieve desired emission reduction outcomes at sector, sub-sector and company levels. To this end, CEMENT voluntarily submitted a carbon budget in 2016 to be reviewed by the relevant authorities, and approval is expected during the 2017 calendar year.

Government has yet to institute applicable legislation for compliance across all industries, including cement manufacturing, and is developing a position paper to align carbon tax, carbon budgets and desired emission reduction outcomes with the objective of refining the national emissions trajectory.

Greenhouse gas (GHG) reporting regulations
The regulations calculate emissions using the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. Reporting is on a calendar year basis, with the initial reports due in March 2018.

CEMENT, as part of the industry lobby group, was actively involved in the consultative processes to determine the appropriate reporting framework. Companies are expected to report their GHG emissions for carbon dioxide, methane and nitrous oxide separately. CEMENT subsequently registered with the Department of Environmental Affairs to report on emissions.

Carbon tax Z-factor allowances
The carbon tax bill makes provision for various tax-free allowances to reduce a company’s carbon tax liability. One of these allowances is on performance, also known as the z-factor, where entities can reduce their carbon tax liability by up to 5%. This applies if the company is performing better than an approved national sector or sub-sector benchmark to the GHG emissions. CEMENT is investigating projects to improve the carbon dioxide emission reduction plans to benefit from the proposed allowances. CEMENT is considering alternative fuels and energy-efficiency enhancing processes to address combustion-related emissions.

The allowance supports the recognition of prior voluntary effort in response to climate change mitigation. CEMENT, with other industry producers, is actively involved in refining these allowances.

CEMENT proactively measures its carbon footprint in terms of specific CO₂ emissions and recorded between 800 tCO₂ – 900 tCO₂ per tonne of clinker produced during the year.
Key natural capital challenges
Following the challenge of establishing environment community engagement forums last year, CEMENT successfully implemented an improved stakeholder identification and engagement plan in the period under review. Working with the stakeholder engagement team, the environmental management team held stakeholder meetings with the communities at Verdwaal and Springbokpan and surrounding farmers to discuss new environmental initiatives, emissions and water management matters.

<table>
<thead>
<tr>
<th>Key challenge</th>
<th>Response</th>
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<td><strong>IWUL compliance</strong></td>
<td>Although the required amendments on the licence do not impact CEMENT’s operations, the associate is keen to complete this administrative process. The amendment progressed slowly, but CEMENT believes that it will be completed by December 2017 through continuous and extensive engagement with the Department of Water Affairs and Sanitation authorities.</td>
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<td><strong>Establishing environmental management systems</strong></td>
<td>It is vital for CEMENT to establish best practice systems to manage environmental matters at all operations.</td>
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<td>Establishing environmental management systems</td>
<td>CEMENT, as a subsidiary of DCP, adopted a three-year road map(^1) from 2016 for the development and implementation of robust sustainability methodology and reporting processes. This road map elaborates the steps to be followed by group companies towards a robust sustainability system.</td>
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\(^1\) Dangote Cement Plc annual report 2016

Mine rehabilitation
The final regulations in terms of the National Environmental Management Act, pertaining to financial provision for rehabilitation and closure for prospecting, exploration, mining or production operations, were published in January 2016.

Implementing the new regulations on financial provision for rehabilitation ensures that CEMENT complies with the National Environmental Management Act through appropriate funding mechanisms to provide adequately for various levels of rehabilitation. The cost of rehabilitation and closure is assessed annually by independent specialists in alignment with the requirements of relevant legislation, EMPR closure commitments, and applicable good practice.

**STRATEGIC OUTLOOK**
- CEMENT will adopt a more disciplined pricing policy at targeted sales volumes.
- The associate will optimise its product and geographic sales product mix to achieve the best margins.