

# Opening Up Oman



**Bernard Maiter,**  
Carmeuse, Belgium,  
reports on the company's  
latest joint venture  
in Oman.

## **Introduction**

In 2011, initial investigations were carried out by Carmeuse, a leading Belgium-based global producer of lime, high calcium, and dolomitic stone, with a view to investing in a lime plant in Oman, in particular the Salalah region. The main drivers were the presence of high-quality limestone, the vicinity of a major harbour, and the proximity to the Indian market.

## **Implementing the project**

Different sources were investigated, and it was decided to use Majan Mining limestone. The limestone's quality was found to be very high, both in chemistry (>98.5% CaCO<sub>3</sub>) and in physical behaviour, enabling it to be used in a parallel flow regenerative (PFR) lime kiln for multiple applications.

For Carmeuse, entering Oman would only take place on the condition that the right partners be found. This was done through a partnership with the GP Group from Thailand, and Kunooz Oman Holding, a leading local player in natural resources, construction, and transportation.

Through close relationships with Salalah Free Zone and local authorities, a plot of land was chosen, the natural gas was allocated for the

first kiln, and the project to build a complete, new greenfield plant was given the go-ahead. It was called the Carmeuse Majan Salah plant project. Carmeuse was responsible for designing the complete plant,



Carmeuse Majan lime plant.



Automated big-bag loading machine.



Stock area for big-bags before loading.

selecting the different technologies, building the plant, overseeing full commissioning, and following up operations on a daily basis.

The plant flow-sheet, lay-out, and design was done in such a way as to allow for easy integration of future additional capacity. Particular attention was paid to the choice of the kiln and the big-bag packaging technology.

For the kiln, PFR technology was chosen, mainly due to environmental and energy consumption considerations. The PFR kiln technology selected was a 400 tpd Qualical SYN 90, designed to operate with a wide range of limestone sizes.

For the big-bag packaging technology, it was crucial to choose a robust and automatic machine with minimum manual operation, a maximum weight per big-bag, and a very good big-bag "final shape" to ensure a maximum number of big-bags could be loaded in each container. The choice of big-bag material, lining, and quality was carefully considered.

### Building a joint venture

In parallel to this investigation by Carmeuse, the Indian company AIL had a similar idea, and also decided to build a lime plant in the same area, using a 400 tpd capacity Cimprogetti Twin-D PFR kiln. Following discussions between the two companies, it was decided to create a joint venture between Carmeuse Majan and AIL and combine the two operations. The two lime plants, only 1 km apart, would be operated as a single unit from one central control room.

Today, the two PFR kilns, each with a 400 tpd capacity, are in full operation, with both using 100% natural gas. The first kiln started up in May 2015, and the second one in June 2016. Both kilns use the high-quality limestone from Majan Mining. The stones are transported daily by truck from the Majan Mining quarry.

A highly controlled kiln operation and a well-designed plant, which makes use of Carmeuse's technology and extensive experience, allows the plants to offer the high-quality lime, from both



Loading into the containers.

a chemical point of view, as well as residual CO<sub>2</sub>, reactivity, and CaO content. Production is very stable, leading to a constant high-quality supply. The majority of the production is exported to India.

Carmeuse Majan is now the second largest exporter of finished goods from the Port of Salalah. The port is ideally located on the East-West trade lane between Europe and Asia, and is also a prime location for servicing the upper Arabian Gulf, Indian sub-continent, Red Sea, and East African markets.

The port has the capacity to handle 5 million 20 ft equivalent unit containers (TEU) per year and provides Carmeuse with an excellent opportunity to continue growing in key markets. The Port of Salalah also provides a gateway to the East African market, which continues to draw international attention and is also a key market for Carmeuse Majan. In addition, the company remains focused on markets in Oman and the surrounding countries, where demand is expected to continue to follow a positive trend in the coming years. Several vessels carrying Carmeuse lime containers leave the Salalah port every week, ensuring a continuous flow of lime to the company's various customers.

### **A marked success**

Due to optimum packaging and efficient container transportation, the lime delivered to customers in India, Oman, East Africa, and the Indian Ocean islands is in good condition, even after the long

journey. It displays no degradation, either in terms of fines generation or in chemical quality, residual CO<sub>2</sub> quality, or lime reactivity. Well-controlled logistics ensure that, in the first two years of operation, Carmeuse has achieved 100% on-time deliveries to customers.

In continuation of the Carmeuse corporate philosophy, Carmeuse Majan continuously endeavors to protect the environment. Strong emphasis is placed on dedusting filters, reducing spillage, and making internal and external customers aware of the company's responsibility towards the planet.

The growth of Carmeuse Majan has enabled at least 25 – 30 small and medium sized enterprises to grow along with it. Touching and positively benefiting the lives of at least 1500 people in the local community allows the company to practically implement its corporate policy, which aims to take care of people and give back to society in general. Safety also remains a key focus area for Carmeuse Majan, with zero occurrences of any incident in the last 12 months and no severe incidents since the plant commenced operations.

### **Conclusion**

In summary, the Carmeuse plants in Salalah, Oman are a good example of smooth operation, high efficiency, and well thought out logistics, to ensure the delivery of high-quality lime to customers. 🌍