



PERDAMAN CHEMICALS AND FERTILISERS:  
**UREA PRODUCTION**



PERDAMAN

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AND FERTILISERS:

# UREA PRODUCTION

**This Western Australian company is building a world-scale facility using innovative technology to produce urea, with the aim of increasing agricultural production around the world** Written by Penelope Barker & Produced by Brandon Bloch

**P**erdaman Industries is a Western Australian based multinational group with a current focus, through its subsidiary Perdaman Chemicals and Fertilisers, on the production of urea, the most commonly traded nitrogenous fertiliser. Urea is non-toxic, has high nitrogen content and can be easily transported and stored.

Perdaman Industries was formed in 2006. Founding Chairman Mr Vikas Rambal and his fellow Directors all have extensive major project experience, most recently having played central roles in the development and construction of an A\$700 million Liquid Ammonia Fertiliser plant located on the Burrup Peninsula in the North West of Australia.

Named in honor of Mr. Perdaman Krishan Rambal, the late father of Company Chairman and Managing Director, Mr Vikas Rambal, Mr

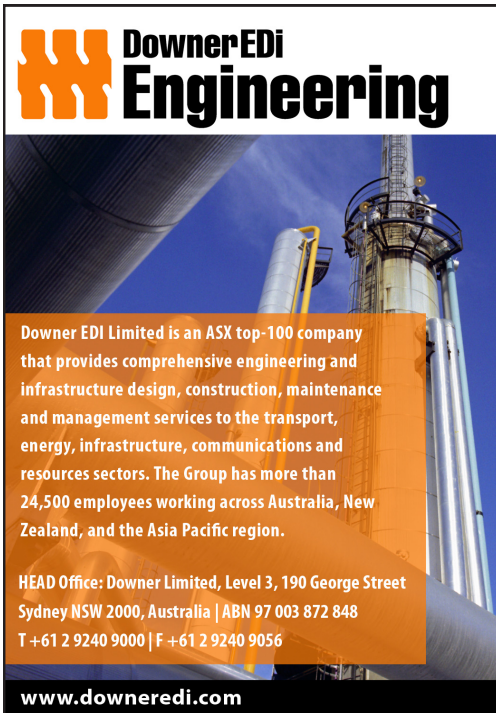
Rambal Senior embodied the qualities of integrity, hard work, education and concern for others that are today the core values of Perdaman Industries.

Mr Perdaman Krishan Rambal (1940-2006) started off as a geologist with the Indian Government. He later managed a successful family owned and operated wholesale pharmaceutical business, as well as the family's extensive property portfolio and export business in India.

Perdaman Chemicals and Fertilisers, is developing a \$US2.7 billion urea manufacturing plant at Collie, Western Australia. Using innovative and clean coal gasification technology, the plant will transform sub-bituminous coal into urea.

The Collie plant will have a two million ton per annum capacity, and most of the urea produced at the plant will be exported to India, under an agreement with IFFCO.

Illustrative  
Representation  
of the Perdaman  
Collie Urea Plant



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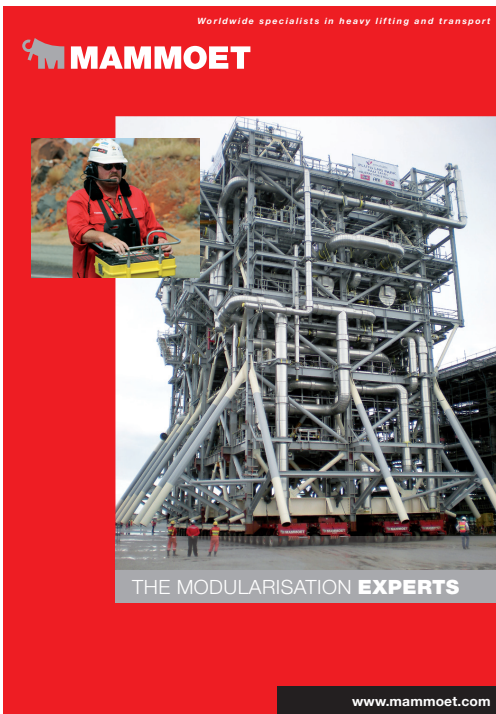


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**COMPANY GOALS**

The Perdaman Collie Urea plant will be a world-scale facility – and the first of its kind in Australia -- with high operating efficiencies achieved by using proven, best-in-class technologies.

“Fertilisers are essential to meet the needs of an expanding global population and its increased demand for food,” says Director (Corporate) Mr Andreas Walewski. “India is currently importing five to six million tons of urea annually and this will increase to nine million tons by 2013. Without fertiliser, it’s estimated we would only be able to feed 40 per cent of the world population. Of the fertilisers available today, urea is undeniably the most efficient. It is safe, clean, easily transported and economical to manufacture and apply.”

**COAL GASIFICATION**

As natural gas is plentiful in Western Australia,

the company initially looked into gas as an energy source for the urea plant, but found it difficult to secure sufficient gas for its future needs at a competitive price over a long period.

“We looked at alternatives,” says Mr Walewski. “This area of the south west is known for coal mining and the local Member of Parliament had started the Coal Futures Group to look at alternative uses for coal other than coal-fired power stations. He sent coal samples to Germany for testing and found they were suitable for gasification.”

At the plant, coal will be milled, dried and injected into a gasifier, together with oxygen to affect a partial oxidation of the coal. The resultant syngas is the building block to produce ammonia. Ammonia is then mixed with carbon dioxide to produce urea.

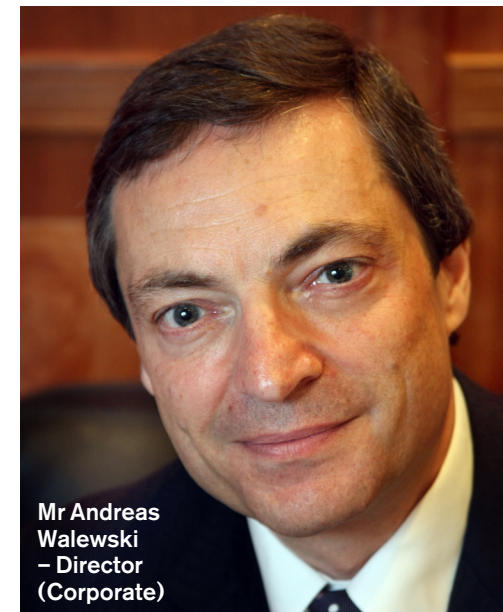
Gasification technology is being provided by Shell, and although new to Australia, has



EPC  
Signing:  
(L-R) June  
4 2009



Mr Vikas Rambal  
– Chairman and  
Managing Director



Mr Andreas  
Walewski  
– Director  
(Corporate)

been established and proven world-wide. Dutch company Stamicarbon is providing urea technology and Danish company Haldor Topsoe is providing ammonia technology. "These companies are all leaders in their field," says Walewski. "There's no scale up risk."

The plant will be located in the Shotts Industrial Park currently being developed by the West Australian Government, outside Collie, about 50 kilometres from the port of Bunbury.

"That's the beauty of the location," says Mr Walewski. "All the elements are available, we are close to the coal mine, there is the availability of water and there is an existing rail link to Bunbury port with a large storage capacity and capabilities to ship to India."

#### GAS SEQUESTRATION

In addition, a potential geo-sequestration site in close proximity to the plant is being investigated to store most of the CO<sub>2</sub> produced by the plant.

"We are working with other industry

groups in the Collie area to develop a multi-user integrated Carbon storage project. While most members of the Collie South West Hub project will be required to retro-fit the carbon capture technology, the Perdaman Collie Urea plant has incorporated the technology into the design, with over 75% of CO<sub>2</sub> emissions sequester ready."

The Collie South West CO<sub>2</sub> Hub project has been successfully nominated as one of four projects shortlisted to receive a share of the Australian Government's A\$2 billion Carbon Capture and Storage (CCS) Flagships Program funding.

"Being nominated for this program is the start of a significant project that will enable industry to make major cuts to greenhouse gas emissions and assist in tackling climate change," said Mr Walewski.

#### KEY PARTNERS

Perdaman has entered into an agreement with Samsung Engineering and IKPT (Inti Karya

Persada Teknik of Indonesia) for the engineering procurement and construction work and Samsung C & T Corporation, a separate part of the Samsung Group, have also pledged to invest \$US30 million in equity in the project.

"We have developed an excellent relationship with the Shire of Collie," says Mr Walewski. "The people of the South West want to see us succeed and we are committed to supporting the local Collie community as well as the surrounding districts. During the three and a half years of construction we will employ around 1500 construction workers. When we are up and running in late 2013 to early 2014 we will have 200 direct employees and the plant will generate another 650 indirect jobs in the area. Our export earnings over 25 years are likely to exceed \$US20 billion."

When completed and operational, the Collie urea manufacturing plant will use 2.7 million tons of coal annually and produce 170 megawatts of power for internal use and two million ton of urea per year. ■

## FACTS AT A GLANCE



**COMPANY:** Perdaman Chemicals and Fertilisers Pty Ltd

**CHAIRMAN AND MANAGING DIRECTOR:** Vikas Rambal

**OPERATIONS:** Urea manufacturing (due to commence in 2013)

**ESTABLISHED:** August 2006 (previously North West Chemicals & Fertilisers)

**EMPLOYEES:** Over 160

**www.perdaman.com.au**



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