

■ Sustainable industry

# Wind of change blows for big miners

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**S**AMANTHA Hoe-Richardson, a nuclear engineer who likes to play rock piano, enjoys solving complicated problems — a handy attribute for the head of energy and sustainability at Anglo American.

"I am naturally attracted to things that are not always that well understood," said Hoe-Richardson.

"Mining is a long-term investment and it is important to consider aspects such as the physical effects that climate change could have in current and future planning."

In South Africa, mining and metals are among the biggest sources of carbon dioxide, the gas largely blamed for human-induced climate change.

Eskom, Sasol, BHP Billiton, ArcelorMittal and Anglo American are SA's largest emitters of harmful greenhouse gases.

Hoe-Richardson said Anglo American accepted the responsibility to address both the causes of climate change and the effects it could have on the business and its assets and on communities.

Climate change is defined as a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may

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be a change in average weather conditions, or in the distribution of weather around the average conditions — such as more extreme weather conditions. Hoe-Richardson pointed to the heavy flooding last year in Queensland, which hampered Anglo American's coal operations in Australia.

She chairs a special climate-change task force for the International Council on Mining and Metals. "These meetings are always heavily attended, which proves that other companies are also alive to the debate around climate change."

But there is still disagreement about the issue. Philip Lloyd heads the Energy Institute at the Cape Peninsula University of Technology, where research covers a wide range of energy issues, including studies around climate change.

Lloyd said climate change is a very "questionable hypothesis" and that some people had doctored statistics to "terrify" people.

"We have not seen any evidence that the world has gotten any warmer over the past 150 years," said Lloyd.

Nevertheless, the world is trying to move towards a lower-carbon environment to avoid global temperatures rising by more than 2°C by 2050.

The South African government has conditionally committed the country to reduce emissions by 34% by 2020, but Hoe-Richardson said it was more likely to take until 2030 to reach this target.

## Anglo American addresses climate concerns



■ SCIENTIFIC APPROACH:  
Samantha Hoe-Richardson

The problem is that South Africa has little room to make changes quickly as its major employers are among the top polluters, and its cash-strapped power sector is almost completely reliant on coal.

In line with a cabinet-backed climate change document made public last year, big carbon emitters such as Anglo American will need to submit plans on how they intend to tackle emissions within the next two years.

However, despite all the talk, Lloyd pointed out that instead of moving to a lower-carbon environment, the world is in fact using more carbon, with demand for coal growing at around 600 000 tons a day.

"This is not necessarily a bad thing," said Lloyd, as plants would be able to "mop up" the excess carbon dioxide and developing countries would be able to grow their economies.

Hoe-Richardson agreed that demand for coal would increase in the immediate future, especially in developing countries such as South Africa. "This is why it is important to look into clean coal technologies, and to bring these technologies such as carbon capture and storage into commercial production."

An interesting project in this regard is Anglo American's work on a hybrid carbon dioxide capture and algal synthesiser process that has the potential to produce bio-oil feedstock, and is used for carbon sequestration.

"We [Anglo American] see green business as an opportunity and a source of differentiation," said Hoe-Richardson. Minerals had an essential role to play in green technologies — and one of the biggest opportunities for South Africa was the manufacture of fuel cells, as the country holds about 75% of world platinum reserves.

Platinum catalysts are used in hydrogen fuel cells, and Hoe-Richardson believes SA can grow this industry to match the country's entire current mining sector within the next 30 years.