

'Green power' first for Africa

eThekweni launches landfill gas-to-electricity project

ALAN COOPER

DURBAN has taken its place on the world clean energy stage with the official launch on Tuesday of a landmark project that converts gas from household waste into electricity.

A first for Africa, the project will produce enough electricity to power 9 000 medium income homes and inject tens of millions of rands into city coffers through the sale of electricity and certified emission reduction credits, also known as carbon credits.

But the real winner will be the environment. Millions of cubic metres of greenhouse gases that would otherwise have escaped into the atmosphere each year, contributing to global warming, will now be converted into clean electricity.

At the launch ceremony at the Mariannahill Landfill, Mayor Obed Mlaba said eThekweni was committed to being environmentally responsible in its infrastructure development efforts.

"Waste can be a resource and not just a costly liability. Recycling can cover all aspects of waste production. An excellent place to start is with projects to productively use methane gas from landfill sites to generate power," he said.

The project is operating at the Mariannahill and La Mercy landfills and will be extended to the larger Bisasar Road landfill by the end of the year. Mlaba predicted the pio-

neering Durban initiative would encourage other cities in South Africa and the rest of Africa to follow suit.

"We are proud of what has been achieved but we believe we can do much more.

"Through collaboration with the World Bank and its Prototype Carbon Fund we can share our experience and expertise with other municipalities, even in other countries," Mlaba said.

How it works

WASTE in landfills undergoes biological, chemical and physical transformation, giving rise to the formation of gas.

Landfill gas is extracted through gas wells that are either vertically driven into the waste or inclined "gas riser" pipes located around the landfill perimeter laid on top of the slope lining system.

Wells are typically not deeper than 25m. The landfill gas is sucked from the landfill at low pressure (15 to 50 millibars) and blown into a flare unit and reciprocating spark ignition engine through a roots blower system.

Previously gas was flared at Mariannahill Landfill through six "baseline" gas wells.

Soon the drop will become a trickle, then a steam and, hopefully one day, a flood," Sutcliffe said.

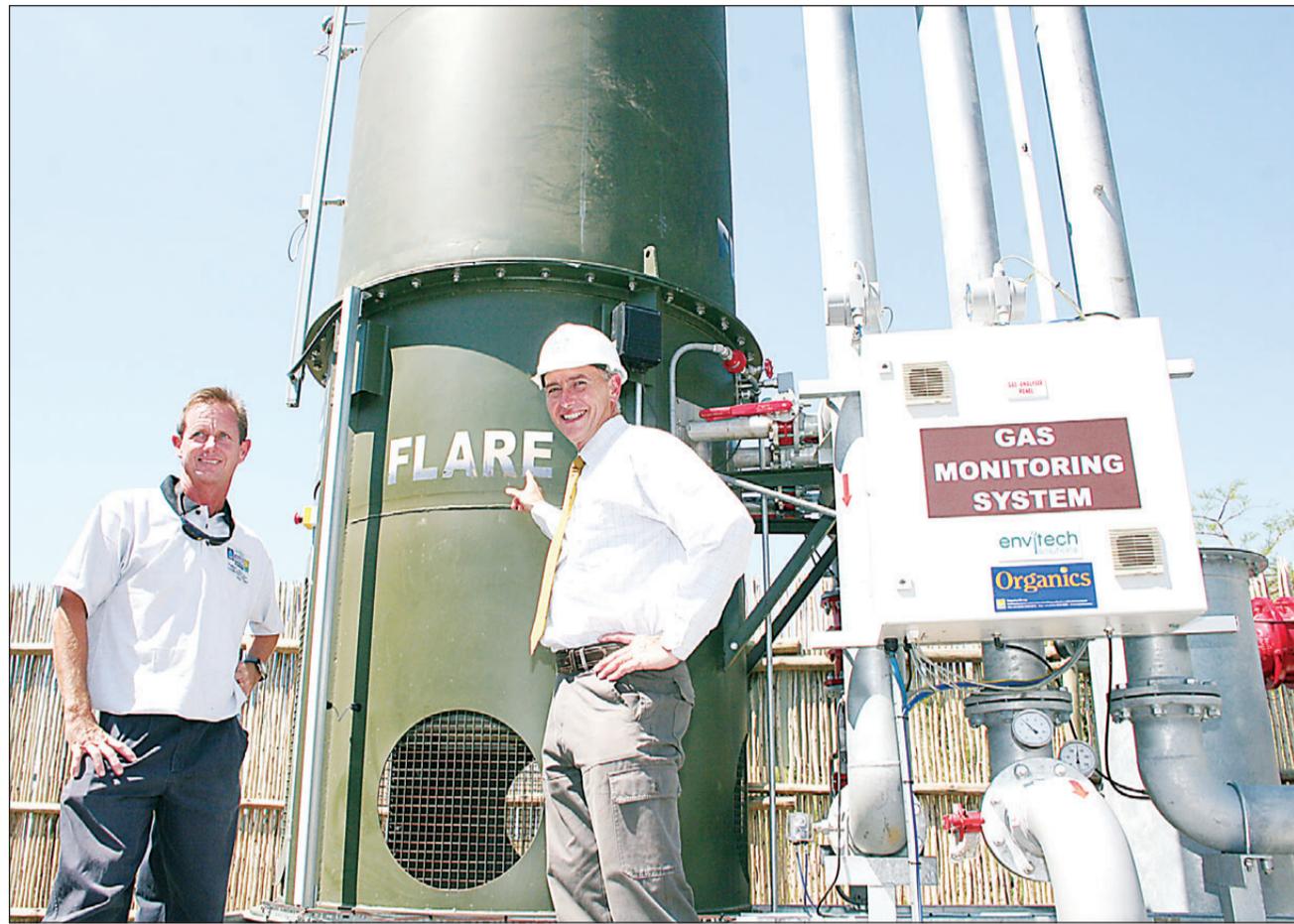
The French Development Bank has provided a long-term loan of R58.74-million, with R17.7-million in donor funds coming from the Department of Trade and Industry.

The World Bank's Prototype Carbon Fund will initially be the main purchaser of carbon

credits. The World Bank's Noreen Beg congratulated eThekweni on taking the lead.

"The World Bank is keen to promote successful solid waste management practices, and in this case the benefits are multiple - clean energy, and a reduction in greenhouse gas emissions are also a result of the project," Beg said.

In terms of an agreement signed in Cologne, Germany in 2004, the Prototype Carbon Fund was to purchase



ABOVE: Project Manager Lindsay Strachan and Design Engineer Marc Wright show the gas monitoring system used in converting landfill gas to electricity



LEFT: Noreen Beg, representative of the World Bank's Africa Carbon Finance team, Lindsay Strachan, Mayor Obed Mlaba and Lwazikazi Tyani of the Department of Minerals and Energy

Pictures: BONGA MSIMANG

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emission reduction credits on 3.8 million tons of greenhouse gas at a price of US\$ 3.95 a ton from the Mariannahill and La Mercy sites.

Since the agreement was signed, the world price for these credits has risen to more than US\$8 a ton and eThekweni is to begin negotiations with potential buyers for the Bisasar Road component of the project.

Project Manager Lindsay Strachan said that while initial profits from the project

would be fairly modest, they would soon be a significant source of revenue for the city.

He said the project's capital expenditure would initially be about R19.5-million with operational costs of R1.2-million a year. Total project income revenue would be about R33.9-million from the sale of carbon credits (R20.7-million) and the sale of electricity (R13.2-million).

"But this is for Mariannahill and La Mercy only. When the Bisasar Road Landfill, comes on line at the end of the year, the financials start to look far better for eThekweni."

Strachan said total capital expenditure would then be R142.4-million, with operational costs of R57.2-million.

Total income revenue would be R606-million from R93-million in electricity sales and R513-million in carbon credit sales.

"This will put the total estimated profit-to-council at R406.4-million."

But Strachan emphasises how much "environmental profit" the project will generate. "It is widely known and proven... and can even be noticed now in our day-to-day lives that the climate is changing and sadly, Africa stands to be severely affected by such change. This project alone will reduce the burning of coal by some 80 000 tons a year (a large truck load per hour!)" he said.

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Small business win big in Lions' Den

ALAN COOPER

NINE of eThekweni's most promising small businesses received a major boost this week when they shared R270 000 in prize money in the inaugural Lions' Den competition.

The competition is a partnership between the eThekweni Municipality and the City Council of Leeds in Britain. It aims to encourage sustainable entrepreneurship, innovation and competitiveness among entrepreneurs in greater Durban.

The prize money was sponsored by Leeds companies White Young Green, City Gent, Corrocoat, YFM

The winners:

New Micro Enterprise

Kollektiv Productions: R35 000
Arrive Co-operative: R20 000
Phembisizwe Farming: R 15 000
Brothers Car Movers: R10 000
Mbongwa Trading: R10 000
Amandla Beadwork: R10 000

Established SMME

Ubuciko Artland R50 000
Get Ahead Technologies: R50 000

Equity Investments

Get Ahead Technologies: R70 000

group, and Business Link.

Representatives of eThekweni, Leeds and the sponsors

attended a glittering awards ceremony at the International Convention Centre to honour the winners and pay tribute to all the small businesses shortlisted.

Mayor Obed Mlaba said he was impressed with the quality of entries. "In many cases, it was hard to make the choices.

"I know the R270 000 in prize money is a great incentive, but I believe the flair and creativity of our entrepreneurs is connected to the pleasure they derive from doing a good job and creating employment and wealth for our city," Mlaba said.

Andrew Carter, Mlaba's Leeds counterpart said he

looked forward to more opportunities for co-operation between the business communities of the two cities. "I hope this competition is the opening of the floodgates of innovation and enterprise."

City Manager Michael Sutcliffe concurred. "I'm confident the partnership with Leeds will play an important role in building a strong, vibrant and sustainable SMME sector."

Paul Rogerson, Leeds City Council Chief Executive, said the Lion's Den competition was another practical example of the benefits of international connections and a tangible product of the

many years of close collaboration between the two cities.

"Both cities share a vision of bringing the benefits of increased economic prosperity to all their citizens. Enterprise and innovation are essential elements in fulfilling this vision."

Quality

Acting Business Support Unit Head Philip Sithole said the inaugural awards had been a test of the quality of local entrepreneurs and they had passed with flying colours.

"As you know, access to finance is one of the biggest

difficulties facing SMMEs. The challenge posed by these awards was to discover whether entrants could put together the kind of business plan that would convince financiers to give them a loan."

Sithole said entrants had to also convince judges that they would follow the plan once they received funding.

"The quality of the entries we received exceeded our expectations. I am confident the winners will plough their prize money back into their businesses, benefiting not only themselves, but their customers and the entire eThekweni economy."

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