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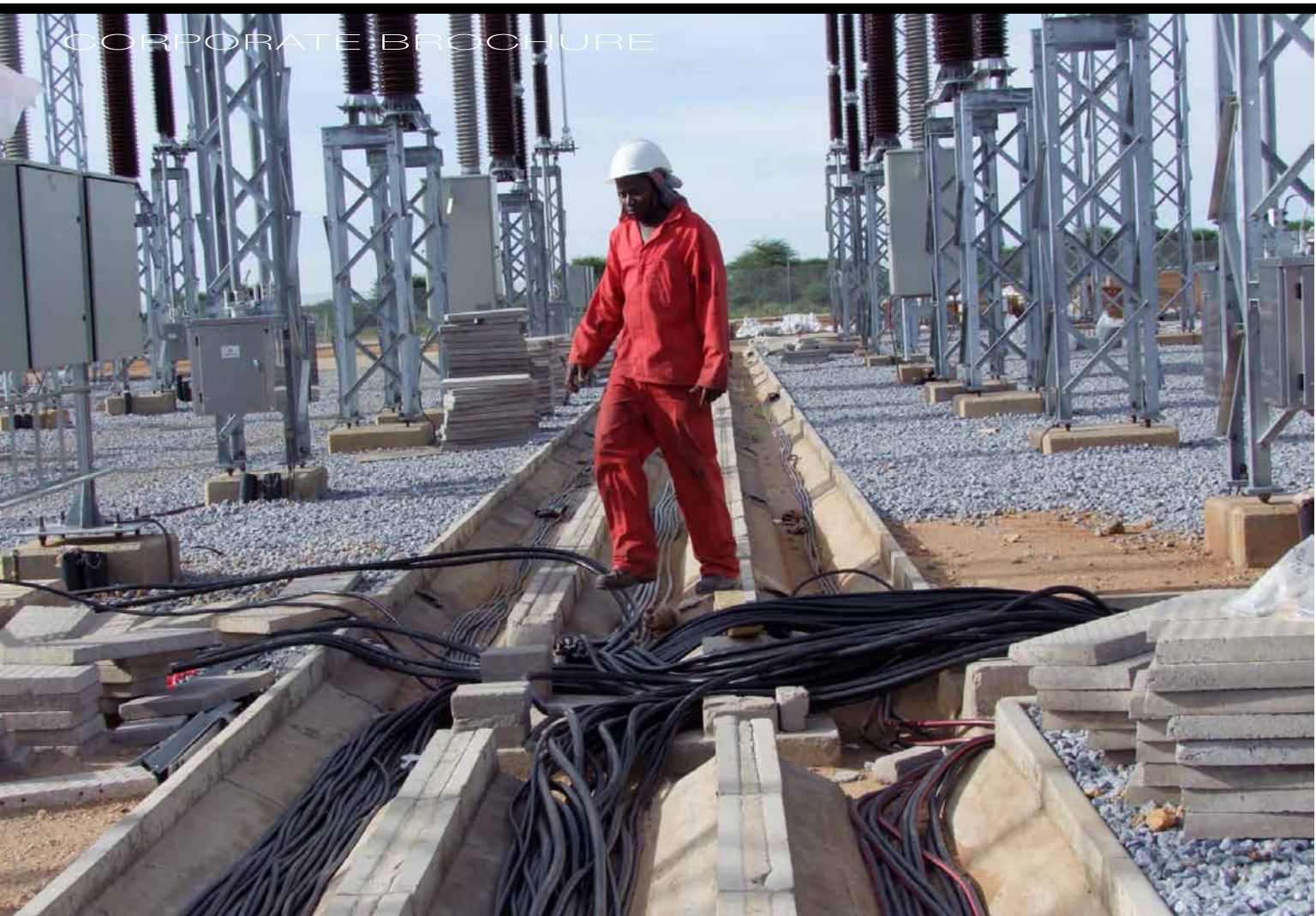

Power to the people

Jane Bordenave talks to Paulinus Shilamba, managing director of Namibian power utility NamPower, about how the company is securing the country's energy supply and the challenges this presents

NamPower, as Namibia's national power utility, was established in 1964, with the ambitious vision of powering Namibia to new commercial heights. The utility's major investment projects are among some of the largest ever carried out in Namibia and serve as the backbone of dynamic growth and diversification.

NamPower is a parastatal company registered under the Companies Act, with the Government of the Republic of Namibia as the sole shareholder. It reports directly to the Ministry of Mines and Energy through the board of directors. The core business focus of the company is the generation, transmission and trading of energy, and to a lesser extent the distribution of electricity in Namibia.

Currently, the company operates three power stations, namely: Ruacana Hydro Power Station situated in Ruacana on the Cunene river in the north of Namibia, providing up to 240 MW of clean and renewable energy to the National Grid at very low costs; the Van Eck coal-fired Thermal Power Station situated in the capital city of Windhoek, with a capacity of 120 MW; and Paratus ('Always Ready') Diesel Power Station situated in Walvis Bay, with a capacity of 26.4 MW. Generation is supported by an extensive 10,000 kilometres of transmission lines throughout Namibia, ranging from 66 kV to 400 kV.

NamPower trades energy with neighbouring countries, such as South Africa, Zambia, Zimbabwe, the Democratic Republic of Congo and Mozambique, and is a member of the Southern African Power Pool (SAPP).

The company faces particular challenges in providing power to the country. With a population of little over two million, spread over an area of 825,418 square kilometres, Namibia is resource-poor in terms of fuel for power stations. One of the tasks of Paulinus Shilamba, who joined the company as managing director in 2006, was to put in place short-term, medium-term and long-term measures to ensure a secure supply of electricity.

One of the short-term strategies has been the control of customer electricity demand. Some of the demand side management (DSM) programmes initiated included educating the customer base about how to conserve electricity; and distributing one million energy-saving light bulbs to energy consumers, encouraging them to replace their existing tungsten light bulbs with compact fluorescent ones. Additionally, NamPower has introduced time-of-use tariffs, making electricity more expensive during peak hours and cheaper during off-peak times. The company is also working with its large consumers of energy in Namibia, such as the mining companies, who have agreed to shift their operations from peak to off-peak times when NamPower experiences an energy shortage. In total, these measurements have reduced electricity usage in peak times by approximately 20 per cent.

In addition to promoting energy conservation and reducing power surges, one of the company's main objectives is to introduce supplier diversification and electrical self-sufficiency in Namibia. "In the past, we relied heavily on Eskom, the South African energy provider and approximately 60 per cent of the power in the country was supplied by that utility," explains Shilamba, "but Eskom is now experiencing brown-outs and power cuts in

South Africa and is not able to provide us with the level of energy we need."

One of the ways in which NamPower plans to overcome this problem is through the construction of the Caprivi Link interconnector. This pioneering N$3.2 billion project, which stretches for nearly 1,000 kilometres, will connect Namibia with its northern neighbours and allow them to trade directly, rather than through South Africa. "What we are doing with this line is at the cutting edge of technology," says Shilamba. "ABB, the company that built the substations on this transmission line, installed an HVDC Lite system, which has never been used before on long distance overhead lines. It's an exciting time—this project will be the blueprint for other countries to follow when building transmission systems on this scale."

The other area of large-scale capital investment is at the Ruacana Hydro Power Station, where a fourth unit is to be installed at a cost of N$750 million. This is the largest and also the most economical power generating facility owned and operated by NamPower. As diesel and coal have to be imported from South Africa, the Van Eck and Paratus Power Stations are expensive to run, only being used to generate power during peak hours and in emergencies.

"The Ruacana Hydro Power Station was commissioned during the 1970s and was designed to accommodate four generators, each with a capacity of 80 megawatts. However due to low demand at the time, only three generators were installed," says Shilamba. "When I took up my position at NamPower, I realised that this presented us with an opportunity to upgrade our power supply potential. We started a feasibility investigation straight away and in 2008, made the final decision to go ahead with installation." Work has already begun on this project and by early 2012 the facility is expected to provide 320 MW of energy, rather than the current 240 MW.

An additional project in the implementation stage is the Anixas Diesel Power Station to be constructed next to the existing Paratus Power Station in the coastal town of Walvis Bay in Namibia. Work on this project has commenced and every aspect of the 22.5 MW diesel

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Consolidated Power Projects (CONCO), one of Africa's leading suppliers of turnkey solutions for the high voltage industry, successfully designed and supplied the latest protection and automation technology for Namibia's national electricity utility, NamPower. CONCO's flexible and open design has allowed NamPower to easily extend the infrastructure making use of the latest technology, such as IEC61850 and other advanced technological features.

power project is on track for commissioning in early 2011, at a cost of N$375 million.

In addition to the Caprivi Link Interconnector Project, the Ruacana 4th Unit and the Anixas Diesel Power Station—all well into the implementation phase—NamPower has various projects in the feasibility study phase.

Namibia is rich in its potential for renewable energy as well. Investigations are currently ongoing into onshore wind farms and a concentrated solar photovoltaic system (CSP). While the investigation to establish a wind farm is in its preliminary stage, plans for a 50 MW CSP facility are already on the cards. The other renewable energy project option being investigated is the use of invader bush to generate electricity. Invader bush is an alien species of vegetation that threatens the local environment, due to its virulence. With an invader bush power station, NamPower can generate sustainable energy while at the same time getting rid of potentially damaging flora in the region.

Clearly, there are challenges that NamPower has to overcome in order to meet its mandate fully, and in so doing, meet the increasing demand for electricity in a self-sufficient and sustainable manner. However, the numerous projects in the various stages of conceptualisation, feasibility and implementation are testimony to a power utility company that takes its vision 'To be a leading energy company in Africa, which excels in customer service, people development and technological innovation,' seriously. www.nampower.com.na

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