



## BETHLEHEM HYDRO

NuPlanet, a leading producer and developer of hydro power in South Africa, owns and operates two hydro-electric power plants in the Free State Province of South Africa. The ownership of the projects is held through Bethlehem Hydro (Pty) Ltd. The facilities are located on the As and Liebenbergsvlei Rivers and both utilise the outflow of the Lesotho Highlands Water Project.

### SOL PLAATJE

The Sol Plaatje hydro power plant was commissioned in 2009. It has an installed capacity of 3MW and operates as a run-of-river power station. The powerhouse is located adjacent to wall of the Sol Plaatje dam and houses a single double-regulated horizontal axis Kaplan turbine. The station operates semi- autonomously with remote monitoring and is interconnected into the Bethlehem municipal power grid through an 11KV line owned by Bethlehem Hydro.

### MERINO

The Merino hydro power plant will be commissioned in April 2010. The plant is located on the As River some 15km downstream from the Lesotho Highlands Water Project tunnel outlet. It has an installed capacity of 4MW and operates as a run-of-river station with a diversion weir, an 800m canal and a small forebay. The powerhouse is situated mostly below ground level and houses a single double-regulated horizontal axis Kaplan turbine. The plant is connected to the national Eskom transmission network through a dedicated 18km, 22kV line.

#### Location:

Free State Province, South Africa

#### Generation Capacity:

7 MW comprising two units: the 3MW Sol Plaatje plant and the 4MW Merino plant.

#### River system:

As and Liebenbergsvlei Rivers, both utilising the Lesotho Highlands Water Project outflow

#### Output:

40GWh/annum

#### Greenhouse gas emission reductions:

40 000tons CO<sub>2</sub>/annum

#### Awards:

- Top 10 best small hydro projects in the world, 2009 – International Water Power and Dam Construction
- Project of the year, 2008 – South African National Energy Agency
- Green Project of the year, 2006 – Development Bank of Southern Africa





## About NuPlanet

The NuPlanet group covers the full spectrum of development, ownership as well as the operations and maintenance of small hydro power plants in Southern Africa. NuPlanet is owned by its directors as well as two private equity funds.

NuPlanet's project portfolio includes the 3MW Sol Plaatje plant which is in operation, the 4MW Merino plant which will be commissioned in 2010 and three additional projects totalling 17MW, which are currently under development.

One of the first new entrants into the energy market in South Africa in decades and the country's foremost hydro developer, owner and operator, NuPlanet has set a new benchmark in the renewable energy sector.

As a company we pride ourselves on our innovation, long-term vision and our commitment to partnerships and sustainable development.

### Bethlehem Operations

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### Black Economic Empowerment

NuPlanet is committed to the South Africa government's policy of Black Economic Empowerment (BEE) and has partnered with WOESA, a broad based black women's group, in Bethlehem Hydro, resulting in a significant shareholding for WOESA.

### Greenhouse gas emission reductions

Through its hydro power assets, NuPlanet is set to reduce greenhouse gas emissions by 150 000 tons of CO<sub>2</sub>/annum from 2012. Bethlehem Hydro alone accounts for 40 000 tons CO<sub>2</sub> per annum of this amount. All these emission reductions will be registered and traded.

### Health Safety and the Environment

NuPlanet strives to achieve excellence in its own and its contractor's health and safety performance both during construction and in the long-term operation of our plants. To date there has been no serious or fatal incidents at any of the NuPlanet power stations. NuPlanet is committed to maintaining the highest environmental management standards. Water is a scarce resource in South Africa and most of our power plants are located on water transfer schemes supplying potable water. We are therefore striving towards zero pollution and contamination during construction and operation.

