



DARLING SEES

DARLING SUSTAINABLE ENERGY AND EMPLOYMENT SCHEME

The OELSNER GROUP in Darling has presented a vision to development of a large scheme in the field of renewable energy applications, which will serve as a basis for detailed analysis of technologies and invites input from all parties which may have an interest and/or will possibly be effected by the scheme. It consists of the following components:

Implementation of a **13 MW wind farm** using modern design megawatt class wind turbines on Moedmaag Koppie, 12 km West of Darling. The project was researched and designed by the OELSNER GROUP and has the support of the Minister of Mineral and Energy, which declared the project a **National Demonstration Project**. The Danish Government generously assisted with grant funding and the electricity generated will be sold as **green electricity** to the City of Cape Town. The first phase of 5,2 MW is intended to be in operation in 2007. On the same property, in full view of the wind farm a **Visitor Training and Education Centre for Renewable Energy Applications** will be erected covering an area of 20 ha. The design phase has been generously sponsored by the British Government.

The **770 MW Stellenbosch Wave Converter** project is planned to feed electricity from ocean power into the same West Coast National Grid.

A **solar hot water system** for 850 sub-economic houses (first phase) in the Darling village is in the planning stage, to be followed by a solar cooker and energy efficiency demonstration project.

A Rutland 913 (**220 W**) **wind charger** has been installed and is tested on a domestic property in Darling far comparison of Photo Voltaic-, Solar-, and Wind power for battery charging-, bore hole pumping- and electric farm fencing systems on its own and in combination with diesel/PV generation.

In addition a test installation of a **Proven 2,5 kW** wind turbine generator on its own and as hybrid system Solar/Photo Voltaic/Diesel has been erected on the same site, on which an **ecologically designed domestic dwelling** will be built and the garden layout will accommodate indigenous plants, bio feeding and water saving devices.

Biogas-extraction from local refuse disposal is another proposition presently studied.

In addition there are project extensions planned which will cover technical fields as:

- **Energy efficiency** in commerce and industry
- **Rational use of energy** in buildings
- **Energy saving** products and appliances
- **Electric storage** systems
- **Net metering** systems
- **Desalination** plants powered by renewable energy
- **Fog water recovery** systems

A feasibility study has commenced in five rural communities near the West Coast area to investigate the electrification by means of wind/diesel hybrid generating plants incorporated in mini-grid systems.

Finally and most important a feasibility study is in progress for the establishment of an **Industrial Park** on 45 000 m² of industrial land for **small to medium industries**, with activities, which are, if possible related to sustainable energy technologies and will include a **wind turbine test** field.

One of the main targets of the Industrial Park and the Visiting Training and Education Centre is the **basic training and employment** of local residents encompassing trades as builders, electricians, plumbers, mechanics, mechatronics, fitters and turners, and other associated trades. Buildings to accommodate guests, trainees and students are planned with an auditorium, a restaurant, kitchen and canteen facility, where training for students in the **catering and tourism** business can be given.

The scheme will attract tourists, students and a large variety of interested parties to come to Darling to see and experience the realisation and effectiveness of Renewable Energy Technology applications.