

### *Dependant on Eskom?*

With all the power cuts, outages and load shedding, it's so easy to criticise government, Eskom/Koeberg for lack of infrastructure and planning, but let's see what we can do to improve the situation.

Instead of running around like a chicken without a head, in a panic mode, due to your dependence on the national grid, and then rushing out and going to buy generators mindlessly, having forgotten that it was only in December that there was a shortage of fuel, it would be better to practice electrical efficiencies, making you less dependent on the grid, by installing the preparatory hardware for achieving independence. This would include a battery charger, batteries and an inverter. Once a load evaluation has been done, the sizing of these 3 pieces of hardware can be determined. Then only comes the investment in solar panels, which gives you an immediate return in the form of a direct reduction in your electricity bill.

Herewith follows our story ...

Having been in the renewable energy industry since 1987, we decided to walk our talk and practise what we preach. So in 1994 we built an energy independent home in the suburb of Thornton. Living in the middle of suburbia, we rejected the municipal connection. Here we lived for 12 years, practising true independence from the national grid by having no connection. At the end of 2004 we moved to Somerset West, where we bought an existing house that was connected to the grid. Thornton's house and office has been converted into a renewable energy centre, which can be visited by scholars, students and interested parties, grounding their understanding and giving them confidence in renewable energy. Having inherited the connection to Eskom, we discovered that the previous owner averaged an electrical consumption of 39 units per day. It was a priority to start practising efficiency. The first thing was to change all the light bulbs to compact fluorescents. A combination of 7 to 15 watt compact fluorescents were used to replace 60 and 100 watt incandescent bulbs. We removed the electric stove and replaced it with a gas hob. We also installed an energy efficient fridge of 100 watts and a chest freezer of 140 watts. Due to the good insulation properties of these appliances, they only run on an average of 11 hours per day. When installing computers, we also utilised LCD monitors. These efforts reduced our daily consumption to 27 units per day. In November 2005 we installed 2400 watts of solar panel. This reduced our daily consumption to 10 units per day. These 10 units run our pool pump and geyser. Different to Thornton, where we had 8 days storage of energy in batteries, here in Somerset West we only have 3 days as we use Eskom as a back-up. The original intention was to demonstrate grid-tie logic, which is commonly practised in Europe and parts of the States, whereby you don't use batteries as storage, but merely store on the grid, reversing your meter in the day and drawing from the grid at night. Due to the instability experienced on the grid since end of last year, we would be foolish to store our energy on the grid and then sit without electricity, along with everyone else. A further development to be achieved in our striving for independence would be using thermal solar for hot water.

The Ravell family  
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