

WISI

**32
REASONS
TO TURN
UP THE
HEAT**

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**SNUGLY
WINTER
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Greenovation



**8 HOMES GET
DOWN TO EARTH**

KITCHENS AND BATHROOMS STRAIGHT FROM MILAN

NO
10
BECAUSE
THIS IS THE HOUSE THAT WILL SAVE THE EARTH

Whether environmentally or practically motivated, green living is one of the biggest topics of 21st century design, and yet there are so few truly sustainable homes. Brian van Niekerk, MD of Rhino Energy, a solar energy and green building solutions company, recently built House Rhino, which claims to be Africa's first completely green home. Situated at the idyllic Crossways Farm Village, some 25 minutes outside Port Elizabeth, on the border of the Van Stadens River Valley, it is one of a handful of such homes in the world. Here are 10 reasons why.



WORDS MALIBONGWE TYILO



1. **It operates off the grid**, thanks to roof-mounted solar photovoltaic panels, which charge two banks of zero-maintenance batteries.
 2. **It's made from Aruba blocks**, which are concrete-filled expanded polystyrene blocks. Although polystyrene may not seem green, it is completely recyclable and provides three times more insulation than traditional bricks, which reduces the electricity needed for heating and cooling.
 3. **Forgot to switch off the lights? Or switch on security?** The house has an electricity-saving building management system that can be controlled remotely through a smartphone, tablet or computer.
 4. **Underfloor heating? No problem. No electricity bill.** The house has 1.5km of pipes under the floor pumping hot water. The water is heated by a solar heating collector, a fireplace and/or a heat pump.
 5. **Energy and water-saving fittings** include LED lighting throughout, as well as optimised taps and showerheads.
 6. **All windows are double-glazed** for temperature-regulating insulation. The roof and ceiling are also insulated.
 7. **Rainwater is collected** by water-harvesting aqua gardens that double up as water features. The rainwater is filtered by the plants and then treated before being used for irrigation, and the natural, chemical-free swimming pool.
 8. **Rainwater is harvested off all roof surfaces**, including from the driveway, as it is made from Hydromedia, a porous concrete that syphons rainwater to the 30kL storage tanks under the house.
 9. **A biodigester produces cooking gas** by treating waste water and decomposing organic kitchen waste and grass cuttings.
 10. **There's a veggie garden on the roof**, which not only provides the residents with fresh organic produce, but further improves insulation of the house and reduces wasted runoff water.
- rhinoenergy.co.za
 • crosswaysfarmvillage.co.za