

PlayPumps

Hundreds of schools in SA don't have access to a clean source of drinking water. This problem is at its worst in rural areas, where people might have to walk many kilometres every day to collect water from unreliable sources. But that's changing thanks to revolutionary PlayPumps, a sustainable pumping system that uses power generated from a children's merry-go-round.

"Prior to the installation of a PlayPump, each borehole is tested," explains Sandra Hayes, Director of producer Roundabout Water Solutions.

"Borehole tests comprise both chemical and bacteriological testing to ensure that the water is fit for human consumption, as well as a step-down test to establish the rate at which water can be drawn from the borehole without it running dry."

Roundabout has an agreement with the Department of Water Affairs and is currently raising funds to install PlayPumps in rural communities.

Clean water means improved health and more time for children in school, because they don't have to walk long distances to collect water from rivers and dams, which leads to higher attendance and better education. Who said playtime didn't have to be productive?

· Visit: www.playpumps.co.za



INNOVATION

These four rural projects showcase the best of South African problem-busting know-how



Sun-e-light

Another innovation that is powering rural areas is Sun-e-light, a solar-powered lamp that can charge a cellphone and even act as a wifi hotspot.

"As a company that is involved with the majority of underbanked and unbanked people of SA, we are always looking for ways to provide innovative, authentic and life-changing services, whether it be a banking programme that strives for financial inclusion, or a mobile application that provides information and education," says José Carlos da Silva Soares, Chief Marketing Officer of technology company Net1 Mobile Solutions.

He explains that Sun-e-light was created to change lives by providing a solar-powered lamp that not only illuminates a room, but also connects people to the Internet. It's all part of a corporate social responsibility initiative to give people in rural areas access to the digital world.

At present, the project is still in its infancy as the company works to ensure production and the inclusion of the wifi modem. However, it has already distributed a number of prototypes around SA. The response has been tremendous and shows the need for effective energy alternatives, particularly in view of the challenges faced by Eskom.

"We want to distribute as many as possible, connect people to the Internet and give them access to information and opportunities," Soares says. "We are also hoping that jobs will pop up around the lamp, in terms of repair and servicing of the devices themselves. Although it is not our only mandate at this point, it is something we are passionate about."

· Visit: www.net1mobile.co.za

SolarTurtle

"Across Africa, utilities have failed to provide for the basic electrification needs of the majority of the population, especially in rural communities," says James van der Walt, social entrepreneur and founder of social renewable energy business Ugesi Gold. "There are an estimated 585 million people living without electricity in sub-Saharan Africa, with 70% of those in rural communities."

Around 3,4 million houses in SA don't have metered electricity. To address this problem, Van der Walt created SolarTurtle, a spaza shop that sells electricity by the bottle and all the energy-efficient appliances that go with it.

He explains that SolarTurtle is basically a solar-powered, used shipping container. Community members buy an electricity pack, which is a battery inside a plastic bottle with a 12V socket like those found in cars. These can then power lights, TVs and large appliances like fridges. When the electricity runs out, the owner takes the SolarTurtle back for another charge.

"Our goal is to deploy SolarTurtles at every off-grid school in SA to enable students to study effectively by powering LED lights and mobile devices," Van der Walt says. The innovation won the Climate Solver Award from World Wildlife Fund SA in 2014 and seems to have a bright future.

• Visit: www.solarturtle.co.za



Shakti Energy

With load-shedding now a routine part of South African life, many are looking for solutions. That's why Vijay Mitha, who has a background in corporate and government IT project management and systems implementation, founded Shakti Energy in 2012. He was tired of seeing the high levels of poverty and limited access to electricity that was a problem for many of the country's informal settlements.

"Shakti Energy is a social enterprise offering lighting and mobile phone recharging to people living without electricity using a pedal-powered generator," he says. "This creates employment in the local community and empowers communities with clean, safe and efficient lighting."

Each Nuru light, which provides bright LED lighting, lasts for 20 hours on a single charge. It takes 20 minutes of easy pedalling on a PowerCycle to charge up to five lights at the same time.

Because there is no need for flickering candles, children can do their homework at night. And because there are no dangerous emissions from paraffin lamps, there is no damage to the environment or the health of people in the vicinity. Each light displaces 0,2 tonnes of CO₂ per year.

Mitha is passionate about helping people in poverty find solutions to their challenges. He also believes that it's better to give people a hand up instead of a hand-out, so that they can make progress in sustainable ways. **DM**

• Visit: www.shaktienergy.net

NATION

Top 12 tips for aspiring innovators

Feeling inspired? Stefan Louw, Director of Innovate SA, has this advice:

- Make sure you know why you do what you do.
- Ensure that you understand what drives you. Innovate to change the world, not to be rich.
- Find the pain and supply the cure. If there isn't a problem that you're solving, you have no value to add.
- Choose the right team and learn how to delegate.
- Define what success means to you. Work on developing yourself, as well as your business.
- Never stop learning.
- Innovation isn't a one-way street. Users know what's best for them, so draw on that to continue innovating your product or service.
- Practise the 4Cs: critical, collaborative, creative and connected thinking.
- Be persistent. Thomas Edison made 1 000 prototypes of the light bulb before he found the right one.
- Test your idea. This is essential to making it a success.
- Be open to constructive feedback.
- See challenges as opportunities, rather than problems. Change the way you see the world and you will change the world you see.

• Visit: www.innovatesa.org

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