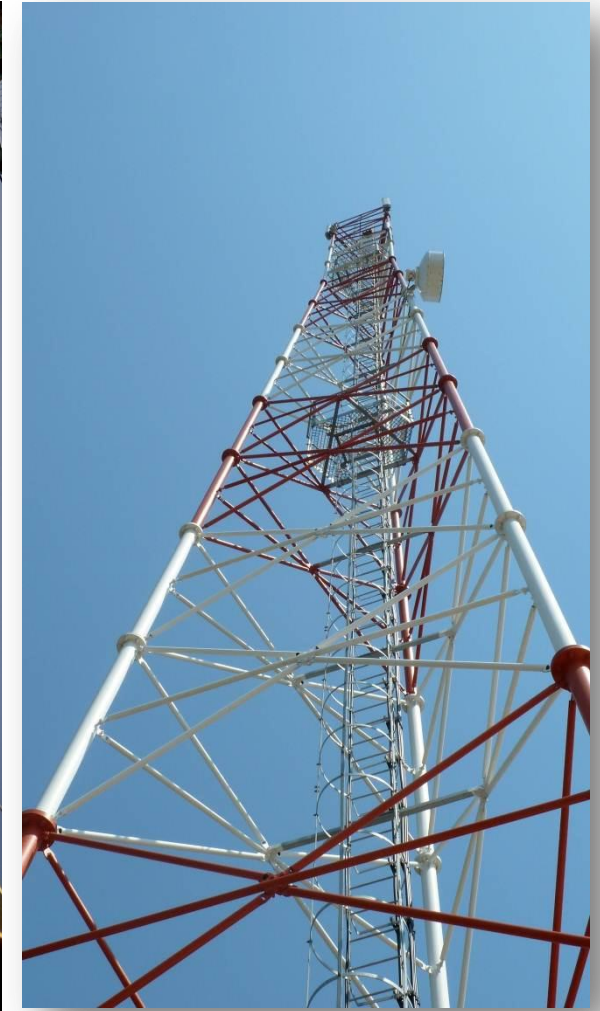




Pilot experience using community Infrastructure for community power projects

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Innovation Centre



You probably have heard some rumors about the Vodafone Site solution Innovation Centre (SSIC) hosted by Vodacom South Africa.

It has been a busy Year at the SSIC and I would like to highlight just a few of the accomplishments:

- The SSIC building has in October 2011 received a 6 Star Green Star rating from the Green Building Council of Southern Africa, making it the Greenest Building in Africa.
- Staying with the green topic, we also launched the community power project in the Northern Kwa-Zulu town of Emfihlweni,
- Design and Delivery for Vodacom SA of a 100% green Mobile Site (Solar, Wind and fuel cell), placed at Durban COP 17 Exhibition area, showed high performance (more than 1000 roaming customers per day)
- We also initiated and completed various other trials and investigations that relate to the energy topic:
In the one scenario we used Solar Foil mounted vertical on a monopole mast. The idea is to make use of existing infrastructure for mounting solar arrays.
Our other trial is with a vertical wind turbine, installed at the top of a mast. This trial is still in its early phases.



Pilot Site: Emfihlweni, Kwazulu Natal, South Africa

- Launched December 2011
- Vodacom converted the existing base station to 13.8kW solar power, with the diesel generator as back up
- In close consultation with community, Vodacom has directed excess energy to where it's really needed in a community that has never had grid electricity.
- Site provides excess electricity from the solar array to power the following:
 - Water pump at the high school (now also supplies community)
 - Power for classrooms at high school (plus Vodacom Foundation provision of laptops and WebBoxes)
 - Handset charging station at the local shop

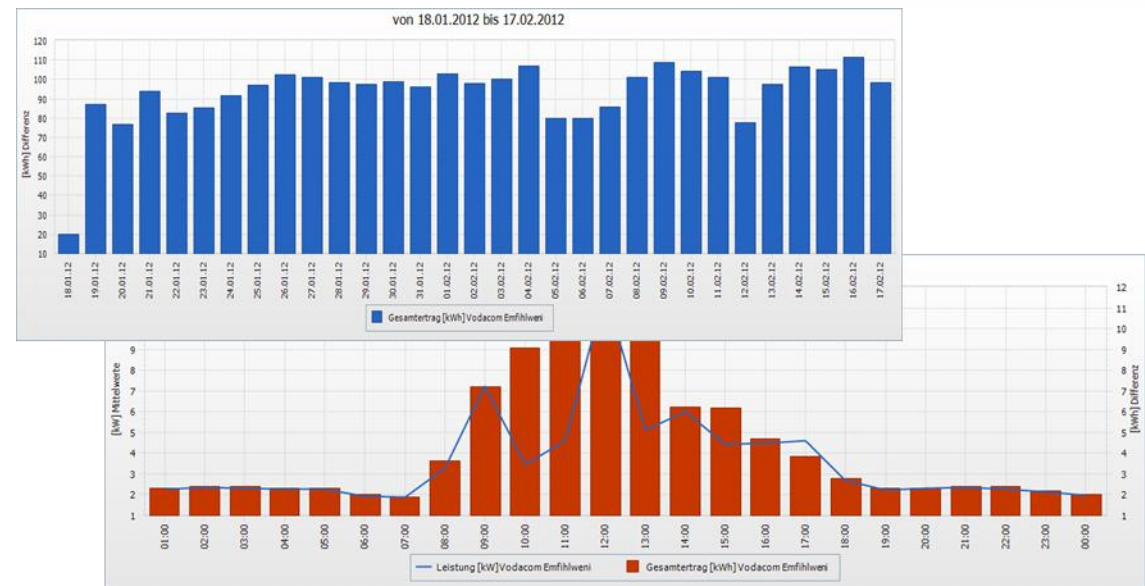


Pilot Site: Power for the School

- We are producing an average of to 80kWh per day.
- Currently 25% of the produced energy is provided to the community.
- The Vodacom Foundation donated 60 laptops and WebBoxes to the school
- We power as well a water pump to get fresh water for the school.
- We installed 1550Ah of Battery capacity to be able to store and manage the energy produced by solar on efficient way and to have energy during the night , this is as well as backup for our base station.
- We keep the diesel generator at the site (25KVA) , this is used now only 3,5 hour per day instead of 24 hours to charge the batteries during the night and early in the morning before sunrise when the batteries achieved a pre-defined Depth of discharge

Handset charger:

We mounted separate solar panel on the roof of the Village kiosk with own back up battery.



Expected benefits of community power

Increasing economic activity

Lighting can enable businesses to operate longer hours, power machinery and computers and street lighting can make streets safe for customers. And increased access to power should mean greater use of mobile.

Improving education

Power for lighting and computers in school increase opportunities for children and access to Webboxes can widen outlooks.

Improving health care

Electricity from solar base stations can be directed to clinics to refrigerate vaccines and increase operating hours. Domestic lighting also means less reliance on kerosene, that causes pulmonary disease.

Reducing Opex

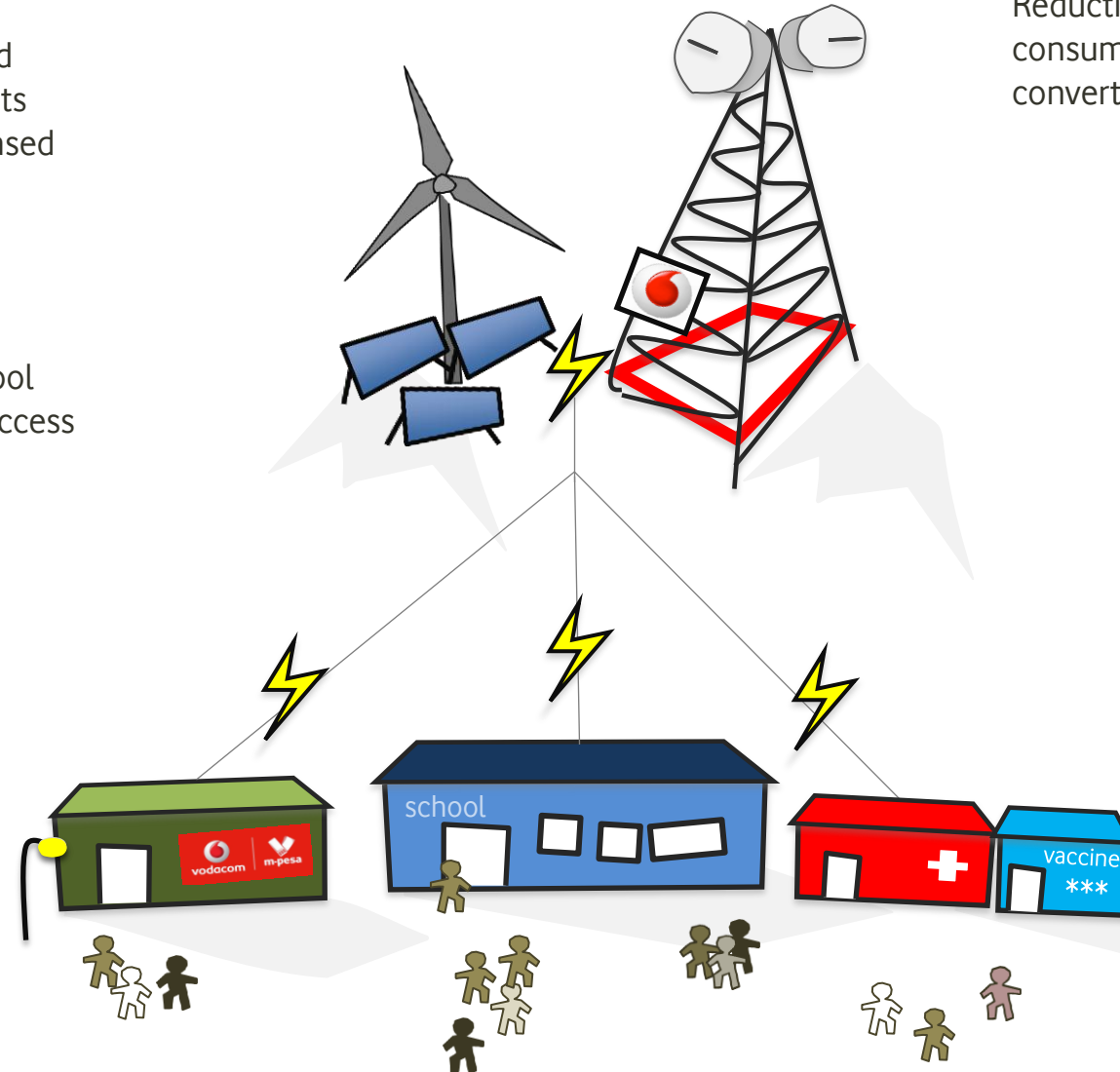
Reduction in diesel consumption as sites are converted to run on renewables

Increasing traffic

Reliable electricity means increased opportunity for customers to charge handsets and therefore greater potential to make and receive calls and SMS.

Increase site security

By providing the community with power, our sites become a key part of community infrastructure leading to reduction in vandalism and making fuel/solar panel theft unnecessary.



Thank You!

