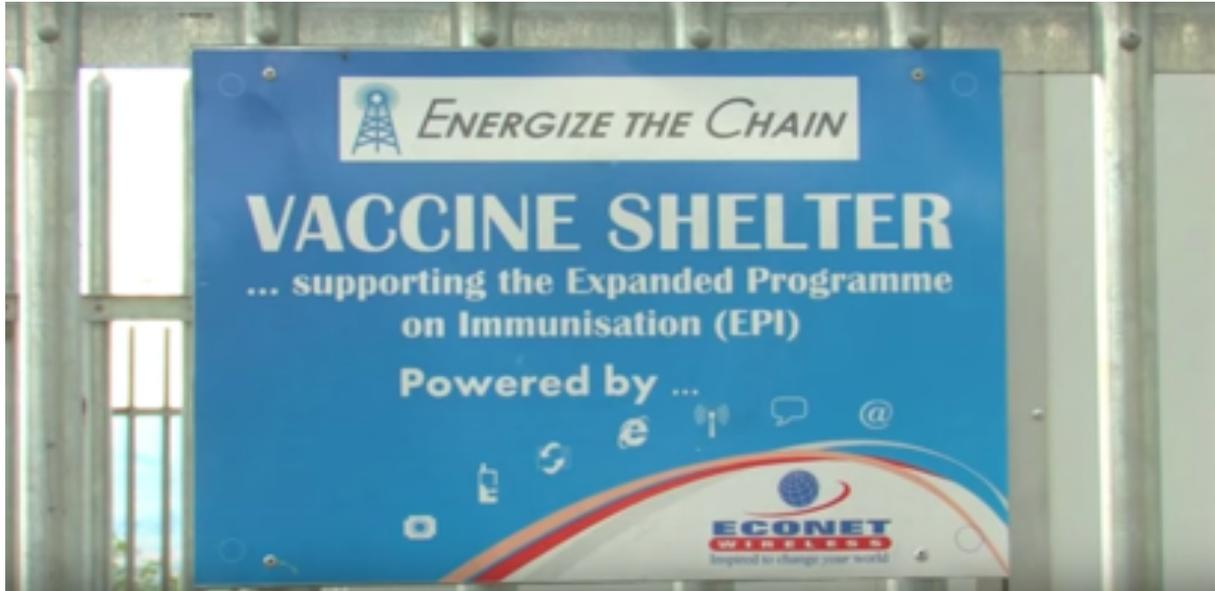




ECONET WIRELESS

PROVIDING INTERNET ACCESS AND OFF-GRID POWER TO
VILLAGES IN ZIMBABWE



A vaccine shelter in Zimbabwe, part of the Energize the Chain. Photo courtesy Energize the Chain

EXECUTIVE SUMMARY

Econet Wireless is a telecommunications company in Zimbabwe that provides reliable green-field power for cell towers and homes in off-grid rural areas. This electricity also powers vaccine refrigerators in partnership with “Energize the Chain,” to provide vaccines for preventable diseases to children in these regions. Presently, 111 off-grid towers with vaccine refrigerators and remote health clinics are in operation, with 100 more under construction.

CONTEXT

Zimbabwe has about 16% of its population able to access some form of Internet service, remaining among the countries with the lowest rates of penetration in the world. Further, even amongst Zimbabweans that can connect to the Internet, only 54% of the population having access to 3G connectivity, with most others using 2G service and millions having no form of access at all.

| Country Statistics: Zimbabwe | | | |
|---|-------------------|---|------------------|
| Land area (sq. km.) | 390,757 | Mobile cellular subscriptions (per 100 people) | 84.7 (2015) |
| Population | 14 million (2015) | Mobile broadband (% penetration) | 16 (2015) |
| Population below the poverty line (as a % of total population) | 72 (2013) | Labor force | 8 million (2014) |

Sources: World Bank, International Telecommunications Union, GSMA, ILO

CHALLENGES

Unreliable energy sources: Most of the rural areas in Zimbabwe do not have reliable sources of power. This causes huge challenges to connectivity, as cellular towers require 24/7 power to remain functional. Immunization programs struggle with several basic obstacles in vaccine refrigeration and delivery due to unreliable energy sources and irregular equipment maintenance.

Lack of Affordable Connectivity: Alliance for Affordable Internet estimates that 500MB of mobile broadband costs nearly 30 percent of Zimbabwe's GNI per capita of US\$840, which is much above the 5% threshold set by the ITU.

THE ECONET WIRELESS SOLUTION

Econet Wireless has set up off-grid cell phone towers powered by robust electrical infrastructures in most rural parts of Zimbabwe. The electrical supply to these towers is provided by turbines, diesel generators and sometimes, solar energy.

In 2013 Econet Wireless partnered with a partnership known as Energize the Chain to launch nearly 100 sites across Zimbabwe. In coordination with the Zimbabwe Ministry of Health, the partnership targeted outreach on a need basis prioritizing regions with poor cold chain equipment performance and poor electrical connectivity was implemented. Another 158 sites are in the planning or construction phase in Zimbabwe.

This “tower power” can provide cellular connectivity to rural Zimbabweans that are in off-grid locations, and often is the first electrical power within many communities. In collaboration with Energize the Chain, Econet Wireless has deployed a model to reduce preventable childhood deaths among the world’s most vulnerable populations by harnessing the power generated at these stations to solve one of the pressing challenges of immunization across the developing world - the cold chain problem.

The co-location model houses a vaccine refrigerator at a cell tower site adjacent to a health clinic in need. By harnessing the cell tower’s excess power, the refrigerator is kept at the required 2-8°C to maintain vaccine efficacy. Vaccine spoilage is minimized, optimizing healthcare workers’ time and reach to the world’s most vulnerable populations and preventing the loss of millions of lives every year.

IMPACT

Econet Wireless provides the first Internet access and the first electricity to communities in rural areas of Zimbabwe. It offers home electricity for a US\$ 6 installation and US\$ 1 per week.

Further, it has had a significant impact on health outcomes for children in the region. Due to its partnership with Energize the Chain, over 250,000 vaccines have been transported through or administered at 111 Energize the Chain sites in Zimbabwe. Over a 100 more are under construction, with the potential to save millions of lives.

KEY TAKEAWAYS

Cellular connectivity in rural areas through cell towers often represent the first greenfield sources of reliable power to communities in the developing world.

This power can transform vaccine delivery and make meaningful differences to healthcare outcomes in countries with high rates of deaths by vaccine preventable diseases.