

About the Project

The **Solar Solutions for Health Facilities – Afya Njema na Mazingara Bora**ⁱ is Empowered2Transform's and Engitech Africa Ltd flagship project that is providing transformative clean renewable power solution to a community health facility – the **House of Hope Medical Center** in Narok County, Kenya. The medical center, run and managed by Mizpah Foundation, is located just outside the quiet Talek town, which is part of Narok West sub-county with a population of about 195,287 people. The town has had little access to health facilities, save for a few privately owned pharmacies and a county-government run dispensary. The nearest health facility is in Narok town, which is 109 km from Talek. Majority of the Talek residents are pastoralists from the Maasai community, who lead a nomadic lifestyle with limited access to public services such as health, education, electricity, and water.

“Nearly 60 percent of all healthcare facilities in sub-Saharan Africa have no access to electricity, and of those that do, only 34 percent of hospitals and 28 percent of health clinics have reliable, 24-hour access.”ⁱⁱ

The **House of Hope Medical Center** is a premier Level 3 health facility, offering both in-patient and outpatient services such as: maternal health care (including in-patient maternity capacity); antenatal and postnatal services; dental care; care clinic for patients living with HIV; laboratory services and a pharmacy. The medical center has a bed capacity of **3** and can serve about **50 -100 patients per day**. The medical center has filled a huge health services gap in the town, since Talek residents – majority of whom are women and children – have been traveling at least 100 km to the nearest Level 5 Referral Hospital in Narok town

to seek medical and specialized services. Their journey usually entails traversing the rolling hills and Maasai Mara National Reserve on long and winding loose surface roads where they are at risk of encountering wild animals.



Embracing The Challenge

Like many other areas and villages within Talek township, the House of Hope Medical Center, since its establishment, has been running on a diesel-powered generator since the area is off grid. The diesel generator capacity at the medical center was not sufficient to run the medical center's power needs, especially refrigeration of critical medicines, vaccines, and extension of operational hours throughout the night.

Empowered2Transform in partnership with Engitech Africa have installed a **5KW Solar system** that comprises: **a 5KW Hybrid Inverter; a 5KWh Lithium Iron (LiFePO4) battery pack** to provide power at night and **7 Solar panels generating 3.3Kw of solar energy**. The center is now operating fully on solar power.



Energy is critical for powering essential devices, medical and sterilization equipment, diagnostics, cold storage for vaccines and medication, information technology, and lights to enable the delivery of continuous health care services” iii

The energy generated through the solar system powers various medical equipment such as: a nebulization machine, ECG machine, Ultrasound machine, Laboratory Equipment (Hematology Analyzer, Incubator, Centrifuge, Immunoassay Analyzer, Fridge, Semi-Automated Biochemistry) and baby warmer. This has enabled the facility to operate even at night, offering much needed emergency services to the residents of Talek.

The solar solution at the medical center was designed and installed by Engitech Africa while the equipment was supplied in collaboration with [Empower2Transform Inc. of Canada](#). Funding for the construction of the medical center was provided by the Cooperation of Troens Ord of Norway.



The Impact

“Transforming a community’s health and climate resilience capacity with renewable solar energy.”

Talek town, despite its fast-growing pace as a sprawling urban center and the fact that it neighbours the Masai Mara National Reserve, has been off grid for many years. Most of the residents and emerging businesses in the township have had to rely on diesel-powered generators or no power at all. The solar energy solution installed at House of Hope Medical Center presents a huge potential for impact that could transform the community's health status as well contribute to the wider Narok county health goals. The key impact includes:

- **Extended Health Care; Saving a generation**

Reliable energy provision to the medical center will mean keeping the facility open – 24/7 - including at night while delivering life-saving emergency services to the community. This will unlock access to emergency mother and child services, thereby contributing to the reduction of maternal and infant

mortality rates. Availability of sufficient solar power will also enable preservation and refrigeration of critical vaccines and medication for this vulnerable group of the population.

- **Cost savings and subsidized medical services**

The transition from reliance on diesel power will lead to cost savings for the medical center. The savings made could be used to subsidize the cost of services for the community such as laboratory charges and medication. This cost-saving is a unique benefit of the solar project which offers a direct realization of value for money by the community.

- **Sustainable, clean, reliable power from renewable energy sources**

“2.8 million premature deaths per year worldwide is estimated due to the use of candles, kerosene and other polluting fuels used for lighting and cooking.”^{iv}





Solar energy transition has proved to be a better and sustainable alternative source of power – offering better value for money in terms of reliability, potential for scaling and generation of socio-economic impacts, especially for vulnerable off-grid communities such as those living in Talek. The use of ‘dirty’ fuels such as diesel has an impact on air quality and the environment. The noise associated with generators also poses a threat to the biodiversity in the neighboring Maasai Mara National Reserve. Solar presents a clean, silent alternative that preserves the ecosystem and protects the community from health threats associated with poor air quality.

- **Contribution towards climate resilience**

The 100% reduction in reliance of diesel generator by the medical center will be a big boost and contribution to Kenya’s renewable energy ambitions, the Nationally Determined Contribution (NDC) of 32% by 2030 and complement the Kenya Government efforts in combating climate change through solar power generation. The medical center is also poised to become a model health facility of excellence that offers not only health services but also learning points for the community on adoption of climate-smart power solutions that boosts the community’s climate resilience.

Partnership and Call to Action

Empowered2Transform and Engitech Africa are offering bankable renewable energy solutions that are set to create a lasting impact in the health sector for under-served communities in rural areas in Kenya and Africa at large. We truly believe in leaving no one behind when it comes to offering renewable energy solutions to communities most left behind. You can partner with us in various ways:

	<p>Partnership ventures: in-kind or direct financial structured payments</p>		<p>Co-financing of the power solutions with County Governments/NGOs/Faith Based Organizations/Social Enterprises with focus on community health facilities</p>
	<p>Blended financing models – grants, private sector matching funds</p>		<p>Co-option into Public-Private Partnership Investments</p>

Come partner with us and let us jointly meet the power needs of the community you serve.

Who We Are



Engitech Africa Ltd is an Africa-focused renewable energy company on a mission to bring power to the people who need it most. Headquartered in Nairobi Kenya, Engitech is focused on providing renewable energy to health facilities.



catalyst for community
transformation

Empower2transform is headquartered in Vancouver Canada. Their Vision is to be a catalyst for community transformation by providing innovative renewable energy solutions.

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ⁱ Afya Njema na Mazingara Bora – Swahili for 'Good health in a clean environment'

ⁱⁱ USAID Power Africa: <https://powerafrica.medium.com/usa-id-power-africa-announces-2-6-co03fa75foo4>

ⁱⁱⁱ USAID Power Africa: [USAID/Power Africa Announces \\$2.6 Million in Healthcare Electrification Grants to Solar Energy Companies in Nine Countries in Sub-Saharan Africa](#)

^{iv} International Energy Agency, Energy Access Outlook 2017