RENEWABLE ENERGY SOLUTIONS FOR HEALTHCARE FACILITIES

IRENA
International Renewable Energy Agency

OFF-GRID RENEWABLES SUPPLY LIFE-SAVING POWER TO RURAL HEALTH CENTRES

Access to electricity is crucial to provide effective healthcare

Electricity is essential to power **vital medical devices**, including vaccine refrigerators and emergency-surgical, laboratory and diagnostic equipment

Electricity is also important for **basic amenities** like lighting, cooling, ventilation and communications. Providing clean and hot water also depends on access to energy

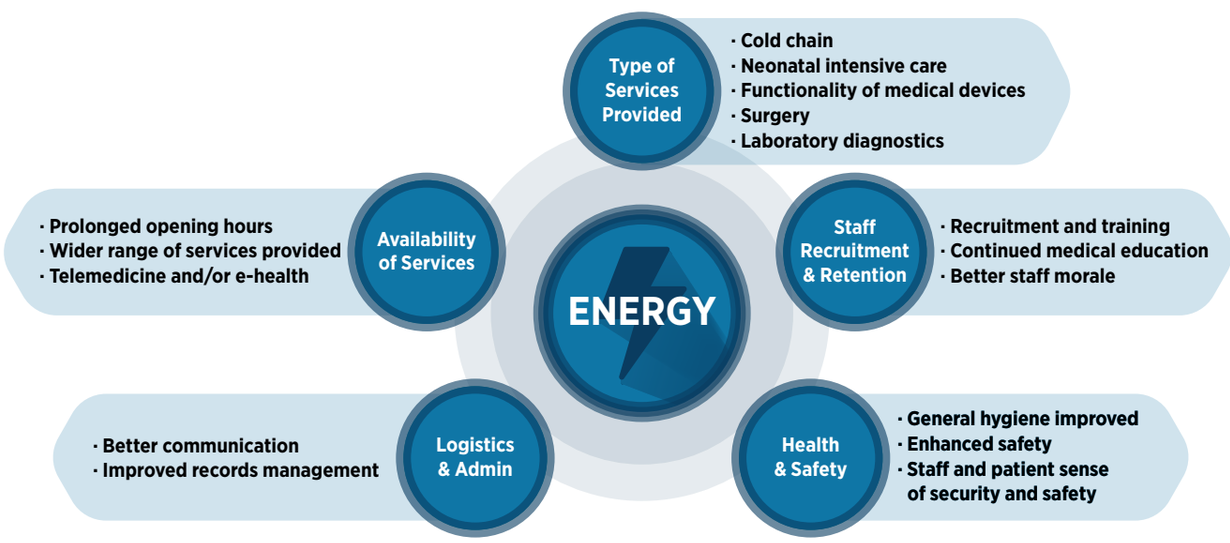
Reliable electricity supply dramatically improves the **quality, accessibility and reliability** of health services

In the absence of reliable power, many **life-saving interventions** cannot be undertaken safely or at all

Yet an estimated one billion people rely on health facilities without electricity[1]

- Even facilities with electricity access often suffer from **unreliable supply**.
- In a recent study analysing over 121,000 facilities, almost **60% of healthcare facilities** in 46 low- and middle-income countries were estimated to lack reliable electricity.[2]
- While most large hospitals have electricity, the access rates drop dramatically for **rural clinics**.[3]
- **Off-grid renewable energy solutions** (stand-alone and mini-grid systems) represent cost-effective, rapidly deployable, reliable options for the electrification of healthcare facilities in rural areas. This can have a transformative impact on people's lives.

ENERGY FOR HEALTH SERVICES



Adapted from a World Health Organization (WHO) presentation given at the 3rd International Off-grid Renewable Energy Conference and Exhibition, IOREC 2016, in Nairobi, Kenya.

[1] Practical Action (2013), Poor People's Energy Outlook 2013.

[2] Cronk, R. and J. Bartram (2018), "Environmental conditions in health care facilities in low- and middle-income countries: Coverage and inequalities", International Journal of Hygiene and Environmental Health.

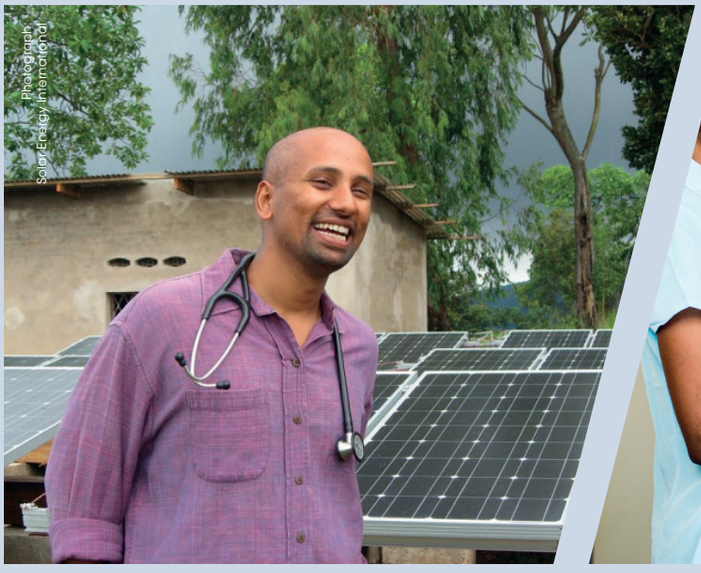
[3] World Health Organization and World Bank (2014). Access to Modern Energy Services for Health Facilities in Resource-Constrained Settings.

Recognising the need for action, the International Renewable Energy Agency (IRENA) organised the International Conference on Renewable Energy Solutions for Healthcare Facilities

Taking place on 2 November 2018 in Singapore, the conference brought together **key energy and health-sector stakeholders**, including policy makers, practitioners, finance institutions, development partners and non-governmental organisations. All of them play a role in enhancing electricity access for rural healthcare facilities in low-income areas.

Among the key findings:

- Health facilities should be a high **priority in electrification plans** among both national governments and development partners. Off-grid renewables offer rapidly deployable, reliable, cost-effective solutions.
- Addressing the energy access need in healthcare facilities requires **increased co-operation** between the energy and health sectors, including ministries of energy and health. This should happen at all levels, from strategy and planning to policies, budgeting, procurement and implementation.
- Capital and recurring expenses related to electricity should be budgeted as part of healthcare facility operations from the outset. Budgeting should also reflect costs for **operation and maintenance**, such as battery replacement.
- Strong collaboration between **private, public and non-governmental institutions** has proven a key success factor for healthcare electrification in certain African and South-Asian countries. Such partnerships should be encouraged.
- There is a need for innovation in delivery and financing models. **Dedicated support and financing schemes**, and energy service agreements, can help accelerate electrification of rural health centres.
- Aggregation models, with proximal health facilities grouped together on a shared energy service contract, could bring down costs and facilitate maintenance.
- **Innovation** has to be encouraged and promoted **across the value chain**, including in the design of robust, low-maintenance, efficient, user-friendly medical devices suited for use in remote off-grid areas.
- Energy-efficient medical devices, combined with off-grid renewable energy and telecommunications, can expand the services offered by **primary health centres** in under-served communities. This also reduces the need for patients to travel to larger, more distant facilities.
- A local ecosystem must be created to ensure the **long-term sustainability** of renewable energy systems. This includes training staff and maintenance technicians in rural areas.
- Electrifying rural health centres strengthens **staff recruitment and retention,** further improving the reliability and continuity of rural medical services.



Conference presentations available: **http://irena.org/healthcare**