
POWER FOR ALL FACT SHEET

Repowering Health in Jharkhand, India: DRE Roadmap for the State



175MW

POTENTIAL ENERGY DEMAND IN
HEALTH SECTOR

\$150M

INVESTMENT POTENTIAL
FOR TRANSITION
THROUGH DRE IN THE
HEALTH SECTOR

0.8 Million Tons

CO2 EMISSIONS AVOIDED
THROUGH DRE INTERVENTION
OVER TEN YEARS

Jharkhand is India's 14th largest state, with a population of 3.2 million people facing catastrophic healthcare infrastructure problems. As per rural health statistics 2019-20 nearly 50%¹ of the state's sub-centers and a fifth (22.3%) of the primary health centers do not have access to electricity which affects the delivery of its essential and quality services. The rapidly rising demand for power puts Decentralized Renewable Energy(DRE) in an unique position to be the provider of affordable, quality energy supply across several medical centers thereby strengthening the health infrastructure in the state

Out of the 607 health centers surveyed, 44% of the health centers experienced fluctuating power supply

- » 607 health centers surveyed covering Ranchi, Gumla, West Singhbhum, Sahibganj, Dumka & Palamu districts of Jharkhand using a combination of primary and secondary research methods.
- » 44% of the health care centers lacked access to electricity.
- » 89% faced power outage issues up to more than 8 hours per day with majority (75%) having no alternate backup power supply
- » Due to unreliable power supply, 78.3% of health facilities also expressed their willingness to use solar as an alternate source of energy in their region to improve the health services.

Importance of Prioritizing Rural Health Centers in Jharkhand

- » To overcome the unreliable power supply challenge across state healthcare centers: Jharkhand's aging power infrastructure and inadequate transmission and distribution networks cause fluctuation in power. Today as the demand far outstrips the available capacity, it necessitates urgent addition of new generation capacity to maintain a stable supply of electricity across the state.
- » Lack of availability of proper health infrastructure affects the quality of healthcare in the state: More than a third of PHCs, for example, lack fully working cold chain equipments affecting the delivery of essential primary health care services like immunization at the block and village levels, as well as for other remote areas.
- » Unmanageable patient load due to lack of qualified health workers: Doctors to patients ratio in Jharkhand stands around 1:18518 individuals² as compared to the WHO prescribed limit of 1 Doctor/ 1000 individuals³
- » Inadequate outlay for the healthcare system: Jharkhand has only set aside 5.2% of its overall spending on healthcare, which is slightly less than the average state allocation (5.5 %)⁴.

DRE as an enabler of change in the health sector:

- » Decentralized renewables address the multidimensionality of energy access and provides reliable , affordable form of energy
- » DRE has the capacity to manage peak loads affordably
- » The availability of energy is reliable and not prone to voltage fluctuations as compared to grid connected electricity
- » Better health services are more likely to be provided with a reliable and high-quality energy supply

DRE potential in Jharkhand

- » The power demand in the health sector can potentially reach to 175MW by 2032
- » DRE's scope in the health sector will be roughly 41 MW, with 6 hours of backup power in the Optimistic scenario at current power demand

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By the Numbers:

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- » 41 MW capacity addition through DRE can save an estimated at \$70 million USD
- » Increased use of DRE and energy efficiency measures in the health sector may save nearly 0.8 million tonnes of CO₂, equivalent of burning 393,615,390 pounds of coal

DRE infusion in the healthcare unit saves at least \$70 Million over the plant's 25 year life

- » Healthcare is one of the energy intensive sectors where availability of energy is critical to universal health care coverage. DRE, in combination with cost-effective medical equipment, long-term service delivery strategy and adequate financing can be utilized to revolutionize health care systems for less than USD 0.40⁵ (INR 30 per person).
- » The solarization of Community Health Centers with backup can save around \$1.2 Million USD over the solar power plant's 25-year life.
- » With 6 hours of battery support and fast payback of 7 years, solarizing a Health Sub-Center can help save roughly about \$71,000 during the life of the solar power plant
- » With battery support, solarizing a Primary Health Sub-Center can save roughly \$188,000 over the solar power plant's lifetime, with a 6-year payback

Recommendations for strengthening the healthcare infrastructure

- » A robust policy framework for strengthening Health-Energy integration and addressing the systemic gaps: Jharkhand needs a well defined strategy for integrating health and energy, along with a strong enabling regulatory policy framework which adopts both multi-stakeholder and convergent approach to achieve universal health coverage.
- » Access to Finance to upscale DRE models: As per studies, Jharkhand spends approximately \$5 per capita⁶ on health which is considerably less than the Indian average. Government support in the form of a state fund should be introduced and additional financing through bilateral and multilateral aids from development agencies, funding from philanthropic foundations, corporate social responsibility supports, and private domestic foundations should be explored.
- » Access to innovative technology and capacity building measures to provide quality health services: Capacitation, operation and maintenance are vital to ensure a techno-friendly environment in health institutions. Providing adequate training to health center staff on basic PV system maintenance for system efficiency and on-site troubleshooting is important for decreased downtime of the solar plant.
- » Proper Auditing, Planning, Monitoring, and Evaluation of health care centers: Mandatory health center audits should be conducted to match the size of solar PV systems to the medical equipment required in a specific site and its electricity load.

Share the Message

- » Decentralized renewables can bridge the energy access gap and provide a stable, reliable and clean source of power to health sectors across Jharkhand and rest of India
- » DRE can revolutionize the public health infrastructure in Jharkhand and can significantly contribute to achieve the state's climate goals along with considerable savings to state exchequer thereby reaching to more people and saving more lives in the process.

Sources:

1. Rural Health Statistics, India 2019-2020.
2. Jharkhand Budget Analysis 2021-22
3. Down to Earth (2018).
4. Deccan Herald (2022).
5. Power for All (2020)
6. Future-Ready, Jharkhand RE-Powering Health Sector in Jharkhand' (2022).