A lack of electricity for health, sanitation, and security has significant impacts on health and safety, as do the open—and often toxic—flames of candles and kerosene lamps used by many families to light their homes.

**Decentralized renewables are reducing the use of dangerous forms of lighting and increasing health-related knowledge**

- Kerosene lamps contribute to indoor air pollution which kills more than 4 million people each year\(^1\)
- Kerosene ingestion is the number one cause of child poisoning\(^2\)
- In South Africa alone, more than 200,000 people are injured or lose property annually due to kerosene-related fires\(^3\)
- In a study in East Africa, 63 percent of people who switched from kerosene lamps to solar lights reported an improvement in their health\(^4\)
- A micro hydro scheme in Nepal saw a 72 percent drop in kerosene use, reducing smoke and damaging air particles in homes\(^5\)
- Replacing kerosene and candles with solar lamps is estimated to reduce the probability of fire by 70 percent, and of burn injuries by 80 percent\(^6\)

**Decentralized renewables power clean water supplies and sanitation, vital to reducing illness**

- 783 million people lack access to clean water, leading to water borne diseases and diarrhea\(^7\)
- 44 pilot sites for solar powered water dispensers help 100,000 people in East Africa access safe water,\(^8\) while similar technology enables 300,000 people to access clean water in 12 Indian states\(^9\)
- In Turkana, Kenya—a single solar powered water pump provides 30,000 liters of clean water a day, saving villagers a 10 kilometer walk to source water from dried-up, contaminated river beds\(^10\)
- In South Africa, an estimated 300,000 wind pumps are used to provide clean water for household use, irrigation, and livestock\(^11\)
POWER FOR ALL FACT SHEET:
Keeping Families Healthy and Safe

By the Numbers:

63%
PEOPLE FEELING HEALTHIER WHEN NO LONGER USING KEROSENE

542
HEALTH CENTERS POWERED BY SOLAR IN CHHATTISGARH

284,000
REFUGEES SAFER DUE TO SOLAR LANTERNS & STREET LIGHTS

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» Decentralized renewables enable innovative clean water initiatives. A solar powered water filtration pilot in La Mancalona, Mexico, provides 1,000 liters of safe water a day to the village’s 450 residents, while new decentralized solar desalination technology in India aims to help 250 million people currently drinking salty groundwater.

» Decentralized renewables improve sanitation. 57 bio centers in Nairobi use the methane from human waste to provide clean bio-fuel, providing sanitation and power in the city’s slum areas, whilst solar pumps are used to pump sewage.

Decentralized renewables provide critical energy for health services and medical equipment

» Around 1 billion people worldwide are served by health centers and hospitals which lack access to electricity.

» 36,000 women in Nigeria die in childbirth each year, with life-saving medical care hampered by a lack of adequate lighting after dark. A trial of solar lights and systems by midwives in 36 of the country’s primary healthcare centers led to improvements in service delivery.

» 1,000 solar suitcases help midwives in unelectrified clinics across Africa perform obstetric procedures throughout the night.

» Decentralized renewables power refrigeration, hot water and equipment. In Chipendeke, Zimbabwe, power from a micro hydro plant to the local health center enables vaccines to be refrigerated, which has lead to a 75 percent increase in children’s vaccinations, whilst electric boilers enable the sterilization of equipment.

» In the Indian state of Tripura, 80 public health centers, 13 sub-divisional hospitals, and many district hospitals are powered by decentralized solar (almost 90 percent of the public health centers in the state), while in the state of Chhattisgarh, 542 primary and community health centers in insurgency-prone areas are powered by solar.

» To improve health services, Bangladesh aims to power 18,000 rural health centers with decentralized solar systems by 2021.

In remote communities and areas of conflict, decentralized renewables improve the safety of men, women, and children

» When solar systems were installed in 8 primary schools in Uganda, the percentage of students feeling “scared” or “unsafe” declined from 85 percent to less than 1 percent. They also felt safer using latrines at night, leading to greater use of facilities and improved sanitation.
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Share the Message:

Development targets relating to health, safety, clean water, and sanitation will not be met without decentralized renewables. Clean energy technologies make it possible to operate hospitals, power fresh water pumps, reduce toxic indoor air pollution, and far more. Join Power for All and share these messages:

» Hundreds of millions will be left without clean water, access to healthcare, and safe lighting without decentralized renewables

» Decentralized renewable technologies already save lives, and improve the welfare of millions of people living in the world’s poorest and most vulnerable communities

» To create a safer and healthier world, in which all have an opportunity to prosper, we must accelerate access to decentralized renewables

Sources:

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