POWER FOR ALL FACT SHEET:
Keeping Families Healthy and Safe

POWER FOR ALL

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

Join the conversation:

powerforall.org
twitter.com/power4all2025
facebook.com/pwr4all

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

Join the conversation:

powerforall.org
twitter.com/power4all2025
facebook.com/pwr4all

» 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,[12] while new decentralized solar desalination technology in India aims to help 250 million people currently drinking salty groundwater[13]

» 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,[14] whilst solar pumps are used to pump sewage[15]

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[16]

» 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[17]

» 1,000 solar suitcases help midwives in unelectrified clinics across Africa perform obstetric procedures throughout the night[18]

» 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,[19] while electric boilers enable the sterilization of equipment[20]

» 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[21]

» To improve health services, Bangladesh aims to power 18,000 rural health centers with decentralized solar systems by 2021[22]

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[23]

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

Join the conversation:

powerforall.org

twitter.com/power4all2025

facebook.com/pwr4all

» Prior to using a solar light, 64 percent of participants in a survey in Haiti did not feel safe during evening hours. Only 2 percent remained concerned after receiving a solar light, with 91 percent reporting they felt very safe walking around their home at night. Participants also reported a dramatic decline in fire hazards and theft incidences[24]

» 284,000 refugees and members of host communities in Ethiopia and Jordan live in greater safety at night thanks to the provision of more than 56,000 solar lanterns and installation of 720 solar street lights[25]

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 health care, 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:

1. World Health Organization (2012) Power for All (2014) The Energy Access Imperative
2. UNICEF (2015) Why Sustainable Energy Matters to Children
3. Mills, E. (2012) Health and Safety Benefits of Modern Off-Grid Lighting
4. SolarAid Research, 2012-2015
5. Practical Answers to Poverty (2002) Pinthali Micro-Hydro Project Nepal
6. Furukawa, C (2012) Health and Safety Benefits of Replacing Kerosene Candles by Solar Lamps: Evidence from Uganda
7. World Health Organization (2012)
8. UNFCCC (2015) Lifelink Water Solutions
9. Piramal (2016)
10. Practical Action. Retrieved 1 October 2016: http://practicalaction.org/solarpump
11. REEEP. Module 2, The Energy Sector in Africa. Retrieved 1 October 2016: http://africa-toolkit.reeep.org/modules/Module2.pdf
12. TreeHugger (2015) Solar-powered water purification system a huge success in Mexican village
13. Phys.org (2016) Researchers design a solar-powered desalination device for rural India
14. The Guardian (2014) Poo power: turning human waste into clean energy in Kenya's slums
15. Dwc-water.com. Retrieved 1 October 2016
16. Practical Action (2013) Poor People's Energy Outlook 2013
17. Lighting Africa (2015) Pilot Project Confirms Benefits Of Solar Lanterns To Maternal Care In Nigeria
18. We Care Solar (2016)
19. EuropeAid. Retrieved 1 October 2016: http://ec.europa.eu/europeaid/documents/case-studies/southern-africa_environment_microhydro_en.pdf
20. Practical Action. Retrieved 1 October 2016 http://practicalaction.org/benefits-of-urban-life-chipendeke
21. Oxfam India (2016) Solar for Powering Health and Education in India
22. Bangladesh Sustainable and Renewable Energy Authority (2016)
23. War Child & BBOXX (2015) THE IMPACT OF SOLAR LIGHTING ON EDUCATIONAL OUTCOMES IN 8 PRIMARY SCHOOLS IN NORTHERN UGANDA
24. MPowered (2013) Assessing the Social, Economic and Environmental Impact of Luci Solar Lights in Haiti
25. UNHCR (2015) IKEA stores around the world to raise funds to brighten lives for refugees