
POWER FOR ALL FACT SHEET

Decentralized Renewables: Education

POWER FOR ALL

45%

INCREASE IN STUDY TIME
WITH SOLAR LIGHTS

68%

INCREASE IN FUNCTIONALITY
OF SCIENCE LABS AFTER
SOLAR SYSTEM INSTALLED

172

PUBLIC SECONDARY
SCHOOLS IN NIGERIA
POWERED BY SOLAR

Decentralized Renewable Energy (DRE) solutions are helping millions of school children reach their potential

More than 291 million children worldwide go to primary schools without any access to electricity.¹ In Sub Saharan Africa, 90 percent of children attend schools without power.² Even though more than 95 percent of villages in India are electrified, 40 percent of schools in the country do not have electricity.³ Children are also restricted in their education by a lack of lighting and access to information in the home. DRE solutions allow students to study for longer, improve students' test scores, and enable students to access more educational material through use of ICT.

DRE powers study time, schools and educational institutes:

- » In Uganda, exam scores improved in 8 primary schools with solar systems, with the number of students earning the highest marks on Primary Leaving Exams doubling in some cases. Boys' enrollment also increased by 63 percent, with girls' enrollment increasing by 29 percent⁴
- » 80% of SHS customers in Uganda reported that their children spend more time studying after installation of their SHS, on average an additional 11 hours per week. Of those, 80% report "improved grades" as a result of extra study hours, helping close the educational gap between on-grid and off-grid students.⁵
- » In the Philippines, study time increased by 45% with the introduction of solar lights, and 97% of parents thought their children were showing increased educational motivation.⁶
- » Headteachers whose students have solar lights report improvements in performance, attendance, concentration, and motivation⁷
- » 172 public secondary schools in rural and peri-urban parts of Lagos State in Nigeria are now powered by decentralized solar⁸, while in Bangladesh, the government aims to add 40MW of solar power to remote educational institutes⁹

DRE is providing children with qualified teaching and more information:

- » Recruitment of qualified teachers to rural schools is often a challenge. In a study from East Africa, 75 percent of headteachers reported that recruiting and/or retaining teachers was a problem. 60 percent felt that better lighting at home would encourage teachers to live and work in rural areas¹⁰
- » Solar-powered wifi systems have been built for schools in Panama and Senegal, helping to increase internet access and close the digital

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By the Numbers:

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divide for students.¹¹

- » Computing hubs in schools and villages powered by decentralized renewables help children access information services. For instance, micro-grid-hydro is powering IT hubs in Afghanistan, Nepal, and Peru.¹²
- » Solar Powered Internet Schools have been built in Botswana, Ethiopia, Gabon, Kenya, Nigeria, Rwanda, South Africa, Tanzania and Uganda, which use solar power to power technology like mobile devices, e-boards, and educational software that enhance students' educational experiences.¹³
- » Improvements to basic communications link children to the wider information economy. 95 percent of solar home system users in Bangladesh reported that their access to information through mobile phone-TV or radio had been improved by their solar home system¹⁴
- » Solar powered internet cafes made out of shipping containers have been built in Ghana, Kenya, Nigeria, Togo, Zimbabwe, and Colombia, including remote areas with large numbers of displaced peoples and refugees, allowing students and educators to access information and other educational materials online.¹⁵
- » After solar systems were installed at schools in Nigeria, 68% of schools with integrated science labs reported improvements in functionality of their labs, as did 63% of schools with computer labs, allowing students greater access to ICT and science education throughout the day.¹⁶

Share the Message

Lack of electrification in schools negatively impacts students' learning in off-grid communities. Decentralized renewable energy allows students to study more, improves students' motivation to learn, and gives students access to more qualified teaching and educational materials. Join Power for All to share the following messages:

- » Solar lighting in homes allows students to study for longer at night, improving their educational performance.
- » Decentralized renewables in schools give students and teachers access to ICT and other educational technologies in the classroom, decreasing the digital divide between off- and on-grid children.

Sources:

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