

# Conversion To Solar-LED Lighting In Developing Countries Could Create 2 Million New Jobs

July 20th, 2016 by Joshua S Hill

A new report from Berkeley Lab has shown that a widespread conversion to solar-LED lighting in developing countries could create 2 million new jobs.

Many homes throughout the developing world still rely on dirty fuels to provide simple things like indoor and outdoor lighting. Fuel-based lighting such as candles, firewood, and kerosene lanterns are the norm for millions of people, creating unfavorable living and health conditions. The shift toward solar-LED lighting is in progress, but it is slow. According to the Lawrence Berkeley National Laboratory (Berkeley Lab), the tremendous environmental and health benefits of switching to solar-LED lighting are supplemented by economic development.

Specifically, the study carried out by Berkeley Lab, *Job creation and energy savings through a transition to modern off-grid lighting*, found that the transition to solar-LED lighting has the potential to create 2 million new jobs in developing countries.

"People like to talk about making jobs with solar energy, but it's rare that the flip side of the question is asked—how many people will lose jobs who are selling the fuels that

solar will replace?" <u>said study author and Berkeley Lab researcher, Evan Mills</u>. "We set out to quantify the *net* job creation. The good news is, we found that we will see many more jobs created than we lose."

The reliance upon dirty fuels for lighting stems from a complete lack of access to electricity — approximately 274 million households worldwide. Mills' study, however, focused on the "poorest of the poor" — about 112 million households, primarily in Africa and Asia, that cannot afford even a mini solar home system, which can power a fan, a

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few lights, a phone charger, and a small TV. Mills' 112 million household sample instead can only afford a simple, entry-level solar lighting system.

According to Mills' research, there are currently approximately 150,000 fuel-based lighting jobs. A survey of major solar-LED lighting companies revealed that 38 new jobs for replacement lighting technologies are created for each 10,000 people living off-grid who would benefit from solar-LED lighting. Therefore, with this metric in mind, the number of jobs already created for the current uptake of solar-LED lighting has already matched the number of jobs for fuel-based lighting, and heralds the possible rise of new job creation to 2 million to serve the 112 million households in Mills' study.

Furthermore, Mills found that the quality of these new jobs compared to the fuel-based lighting jobs would be much improved.

"With fuel-based lighting, a lot of these people are involved in the black market and smuggling kerosene over international borders, and child labor is often involved in selling the fuel," he said. "Also these can be very unstable jobs due to acute shortages of kerosene and government subsidies going up and down. It's a very poor quality of livelihood, and the commodity itself is toxic. These new solar jobs will be much better jobs—they're legal, healthy, and more stable and regular."

Further information regarding Mills' study can be found at Berkeley Lab.

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Tags: Berkeley Lab, Evan Mills, job creation, Lawrence Berkeley National Laboratory, new jobs, solar led, solar-LED lighting

#### About the Author



Joshua S Hill I'm a Christian, a nerd, a geek, and I believe that we're pretty quickly directing planet-Earth into hell in a handbasket! I also write for Fantasy Book Review (.co.uk), and can be found writing articles for a variety of other sites. Check me out at about.me for more.

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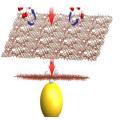
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jimbo · 24 days ago

This is one of the lowest hanging fruit for genuine improvement of peoples lives in the developing world. It's can be much cheaper than kerosene over a couple of years, depending on the type of financing. Major health benefits over kerosene, and longer utilisation times of light usage. Savings to health authorities due to less fume inhalation and less fires. Often some form of charging outlet for mobiles is available from the system.



Bob\_Wallace Top Commenter → jimbo • 24 days ago

Absolutely. There are about 1.2 billion people who have no access to electricity. Now they can obtain good quality light and eliminate kerosene fumes for less than they have been paying for very poor quality kero light.



Brunel → Bob\_Wallace • 24 days ago

People using battery powered lamps instead of kerosene lamps:



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Brunel · 24 days ago

This article did not say battery once.

Perhaps they mean battery powered LEDs.

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Stabby → Brunel • 24 days ago

Not sure I understand your point 100%, so pardon me if I'm out of line but most all solar operated products require a battery. The battery is what allows the light to be used in the dark as it holds the energy created by the sun during the day.

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Brunel → Stabby • 23 days ago

If there is a solar powered school, the thing is most students go home at 4pm or earlier.

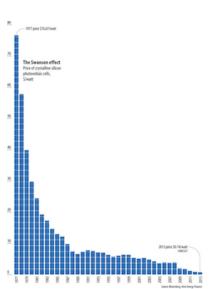
While street lights should only be on after sunset!

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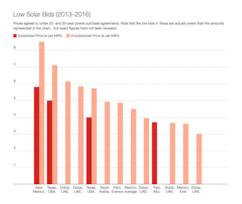
If you build solar nowered schools, most/all students already do



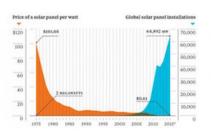
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Advantages of Solar Power

home at 4 pm.

So you would not need batteries there.

While street lights should only be on after sunset. So they would always be powered by batteries or the grid.



sjc\_1 · 23 days ago

Solar yard lights sell for \$1 each, charge them during the day then students can read at night.



Bob\_Wallace Top Commenter → sjc\_1 · 23 days ago

The cheap ones I've seen are pretty much junk. I think there are some fairly good quality solar lamps that can be manufactured for about \$8.

I'd really like to see the cost of a large volume well-built solar AA charger. Rechargeable batteries are inexpensive and generic. One can run lights, radios and charge cell phones with them. Spares can be stored away for Sun-less days.

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Brunel → Bob\_Wallace • 23 days ago

Lithium ion batteries would probably provide better cycle life.

Or Tesla should not have developed the 100 kWh PowerPack.

LiFePo4 can do a huge number of cycles. I think a lot of flashlights already contain 18650 cells. So we just need to put a big tax on gadgets that cannot accept rechargeable lithium batteries.



sjc\_1 → Bob\_Wallace • 23 days ago

Just pointing out the lower costs, it does no good to split hairs, the idea is to do good.



Bob\_Wallace Top Commenter → sjc\_1 • 23 days ago

Understood. I've seen the basic system sold for about \$100. I suspect the price could come down with a little creativity.

At least going the rechargeable battery route would make it modular and easier to repair and expand. The bits and pieces would be inexpensive enough so that village stores could stock components or at least bring them in quickly.

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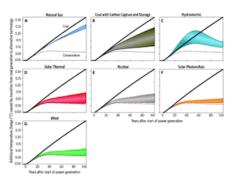
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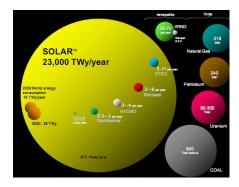
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We are like tenant farmers chopping down the fence around our house for fuel when we should be using Nature's inexhaustible sources Nature's inexhaustible sources of energy — sun, wind and tide. I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that.

• Thomas Alva Edison, 1931

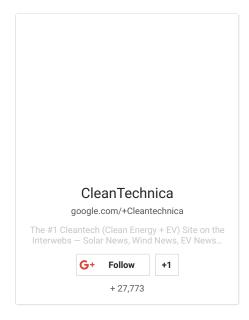


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