Clean Lighting Coalition

Hospital LED Retrofit in the Philippines

MARY JOHNSTON HOSPITAL - MANILA CITY, PHILIPPINES

The Clean Lighting Coalition (CLiC) aims to **transition global markets to safe, cost-effective, and energy-saving LED lighting** by supporting the removal of fluorescent lamp exemptions under the Minamata Convention on Mercury.

Retrofitting Hospitals with Mercury-Free LEDs

CLiC partnered with organizations in Brazil, Nigeria, and the Philippines to retrofit hospitals with energy-efficient, mercury-free LEDs. **Retrofitting is the process of removing fluorescent light bulbs and installing new, higher-efficiency LEDs** into the same wiring and fixtures. The pilots aimed to demonstrate that institutional buildings can easily and cost-effectively transition to cleaner lighting.

LED Retrofits...

- **lower hospital energy costs,**
- **provide better quality lighting, and**
- **reduce the risk of mercury exposure for both patients and staff.**

The pilots demonstrated practical steps hospitals—and other institutional buildings—can take to switch to LED lighting with minimal effort and significant economic and safety benefits.

Our partners provided data on the actual cost of purchasing and installing the lamps in three locations. They also estimated the "pay-back" period, or the time it will take to recover the initial cost of LED purchase through long-term electricity savings.

New Healthcare Opportunities

The Clean Lighting Coalition partnered with **Health Care Without Harm Southeast Asia (HCWH SE Asia)** to support an LED retrofit at **Mary Johnston Hospital (MJH)** in Manila, Philippines.

The retrofit demonstrates one of many opportunities for the health sector to address environmental and public health through efficient technology. By replacing fluorescents with mercury-free LEDs, MJH has reduced its carbon emissions by 3.51 metric tonnes.

The project saved the hospital **USD $1,287** in annual energy costs, which they will use to purchase a GeneXpert testing machine to support tuberculosis patients.

Electricity Rate in the Philippines

PHP	USD
10.5/kWh	$.018/kWh

Initial Bulb Costs

	PHP	USD
LFL	84	$1.42
TLED	170	$2.88

Energy consumption cost & initial cost comparison between LFL and LED

Market data for cost collected between Q4 2021 and Q1 2022

Quick, Easy Transition Plans

Through the pilot, Mary Johnston Hospital replaced **242** fluorescents with LEDs, which will save **7,260 kWh** and **USD $1,287** per year. HCWH SE Asia worked with a lighting auditor, an electrician, the facility manager, and infrastructural and energy management agencies to conduct the retrofit.

The retrofit proccess lasted 6 Months:

Results of the LED Retrofit

LFL Lamps Removed	242
LED Lamps Installed	242
Payback Period (Months)	4.9
Annual Energy Savings (kWh)	7,260
Annual Financial Savings (USD)	$1,287
Annual CO_2 Savings (MT CO_2)	3.51
Mercury Avoided (g Hg)	1.815
Potential Water Polluted from Hg (liters)	907,500

**MT= Metric Tons* **g Hg = grams of mercury*

FEBRUARY

Partner identification, officialize partnership with MJH, present project ideas

FEB -MARCH

Energy audit, submit lighting audit report, host press conference

MARCH - JULY

Purchase recommended lamps, implementation

AUGUST

Analysis & develop case study report

End Toxic Lighting Globally

For countries experiencing shortages in electricity supply and rising energy costs, switching to mercury-free LED bulbs offers a cost-effective and financially feasible solution to reduce energy.

As wealthy markets ban fluorescents, citing health risks and low-efficiency levels, un- and under-regulated countries will become targets for toxic lighting products. A global ban on fluorescents will ensure an equitable transition to mercury-free, LED lighting.

A brighter, healthier future is as simple as changing a light bulb - it's time to take action.

Mary Johnston Hospital

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