

## THE 3 MILLION COMPACT FLUORESCENT LIGHTS PROJECT IN LEBANON

### WHAT ARE CFLS?

*Compact fluorescent lamps (CFLs) are smaller versions of standard fluorescent lamps. They consume much less energy but provide light that is comparable to incandescent lights, allowing them to replace these standard incandescent bulbs.*

The Lebanese Government approved the national plan submitted by the Ministry of Energy and Water, which entails dedicating 9.08 million USD for the development of energy conservation methods in the country. A main action of this plan is this "3 million CFLs project" that consists of replacing, free of charge, 3 million incandescent lamps by CFLs all over Lebanon. It aims to demonstrate the effectiveness of the CFL, its good quality, illumination, and most importantly low power consumption, in a step to phase out incandescent lamps. Among the 1.4 million subscribers, more than 1 million residential subscribers benefit from this plan and take part in this first of a kind CDM project.

According to CDM calculations, the savings are 970 GWh of electricity, 181 million USD and 806000 tons of CO2 emissions reduction. Add to this 190MW power off the grid, so in actual Lebanon electricity scheme, 20% reduction of the power rationing.

A dedicated Project Management Unit created in 2010 manages this project along with the Lebanese Center for Energy Conservation (LCEC). They handle the procurement, distribution, control and CDM. The first CFL arrived to Lebanon in September 2010 and the distribution to households began in October 2010. This project is also accompanied by an awareness campaign to inform people about energy conservation

# 03

**LCEC SUMMARY NOTE**

VERSION 1 SEPTEMBER 2012

LCEC is publishing this series of summary notes to provide you with comprehensive information about the latest developments in Energy Efficiency and Renewable Energy.



### MINISTRY OF ENERGY AND WATER

Corniche du Fleuve ■ Beirut, Lebanon ■ 1<sup>st</sup> Fl ■ Room 303 ■ Tel +961 (1) 565 108 ■ Fax +961 (1) 569 101

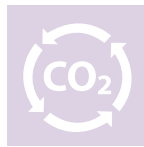
### ENGINEERING OFFICE

Karam Building ■ 240 Badaro ■ Beirut, Lebanon ■ 5<sup>th</sup> Fl ■ Tel +961 (1) 389 189 ■ Fax +961 (1) 389 589  
Email Energy@lcecp.org.lb

[www.lcec.org.lb](http://www.lcec.org.lb)

## WHAT ARE THE ADVANTAGES OF COMPACT FLUORESCENT LIGHTS?

- Financial benefits for the consumer: saving money through reduce electricity bills since the reusing less energy
  - 8 to 15 times greater lifespan than incandescent lights: while initially more expensive, CFLs last much longer while using 1/3 the electricity. (Payback time: less than a year)
  - CFLs can be used in different settings to replace incandescent bulbs
- Environmental benefits:
- Efficiency: CFLs use significantly less energy (up to 80%) than incandescent light bulbs
  - One bulb can reduce a half-ton of CO<sub>2</sub> out of the atmosphere over the life of the bulb.
  - Reduction of the amount of coal burnt
  - Preservation of natural energy sources
  - Reduction of greenhouse gases emitted



## WHAT ARE THE LIMITATIONS?

- Turning CFLs on and off too frequently can reduce their lifetime substantially.
- CFLs when used outdoors need to be covered and protected from the elements. They are also sensitive to temperature, and low temperatures can cause lower light levels.
- The main disadvantage with CFLs is their small mercury content since mercury is a toxic metal. While it doesn't pose any danger when the bulb is being used, it may be released if the bulb is broken, or if disposed incorrectly. These bulbs need to be disposed of very carefully by wet napkins to avoid the dispersal of mercury.

## HOW TO PROPERLY DISPOSE OF COMPACT FLUORESCENT LIGHTS?

- In case they are not broken: when it is time to change the CFL, it should be thrown in the trash in a manner that prevents its breaking.
- In case the CFL is broken, it should not be disposed of in the trash. Instead, it should be wrapped in a plastic bag or put in a box before disposal.

ZONE	AREA COVERED	NUMBER OF ICLS REPLACED	NUMBER OF HOUSEHOLDS	ANNUAL CO <sub>2</sub> EMISSION REDUCTION
1	MOUNT LEBANON	675,000	320,000	20,022 tCO <sub>2</sub> e
2	NORTH & BEKAA	715,000	330,000	21,466 tCO <sub>2</sub> e
3	IN & AROUND BEIRUT, SOUTHERN SUBURBS	475,000	220,000	13,897 tCO <sub>2</sub> e
4	IN & AROUND BEIRUT CENTRAL, NORTHERN & EASTERN SUBURBS	675,000	315,000	18,634 tCO <sub>2</sub> e
5	SOUTH LEBANON	485,000	230,000	114,173 tCO <sub>2</sub> e



- ZONE 2
- ZONE 1
- ZONE 5
- ZONE 3
- ZONE 4

### CONTACT INFO

**Tel** +961 (1) 565 108 ■ **Fax** +961 (1) 569 101  
**Email** [Energy@lcecp.org.lb](mailto:Energy@lcecp.org.lb)