

Technology Fact Sheet

Energy-saving compact fluorescent lampsⁱ

1) Technology status

CFLs are called energy-saving lights because they use less energy than conventional incandescent light bulbs. A CFL's power ranges from 20 to 25 W, giving the same amount of visible light as an incandescent light bulb with power of 100 W. Moreover, CFL lifetime lasts 8000 hours, compared to 1000-2000 hours of a normal incandescent bulb.

Since 2005, EVN has carried out a program to replace incandescent light bulbs to CFLs at a reasonable cost through the EVN distribution network of local electricity utilities. A million CFLs were sold to local people at a subsidized price during 2005-2006, alongside many other awareness raising activities. In 2007-2010, EVN resumed the program, setting a goal of 5 million CFLs sold.

2) Economic benefits

The price of a CFL is more expensive than that of a incandescent light bulb, but this will be compensated by the longer lifetime of and the amount of energy saved by the CFL. The purchase price can be returned after 900 hours in use, and the electricity cost saved is 10-20 times more than the cost for buying a CFL. In times when electricity costs increase, using CFLs will save more money and thus the payback period is even shorter.

Using CFLs can contribute greatly to reducing electric power consumption, resulting in more investments on increasing generating capacity.

3) Social benefits

Using CFLs can reduce household electricity costs thanks to lower electricity usage and subsequently less demand to the national grid. In addition, they can create more jobs and increase income through the production, distribution and retail system.

4) Environmental benefits – GHG emission reduction benefits

Electric lighting is one of the major sources of carbon dioxide. According to the International Energy Agency (IEA), an CFL can help to reduce 0.5 tonnes of CO₂ during its lifespan (2006). Vietnam's population is projected to be 104 million in 2030, equivalent to 23 million households. If each household uses four light bulbs, 90 million incandescent light bulbs can be replaced by CFLs in Vietnam by 2030, reducing 70 million tonnes of CO₂.

5) Application potential

It is estimated that there are 50 million incandescent light bulbs currently in use for household lighting, the majority (about 80%) of which are 60W, 75W and 100W types. Therefore, potential to apply CFLs to household electricity usage is very high.

6) Barriers

Despite its many social, economic and environmental benefits, CFLs still have a number of disadvantages; for instance, there are no international standards on minimum quality and technical properties of a CFL. Therefore, quality and light visibility of CFLs is still under evaluation.

Due to low, instable voltages, CFLs' actual lifetime is usually lower than its nameplate lifetime, which may affect its commercial viability.

ⁱ **This fact sheet has been extracted from TNA Report - Mitigation for Vietnam. You can access the complete report from the TNA project website <http://tech-action.org/>**