Technology Fact Sheet for Mitigation
Sector: Energy.
Sub sector: Energy Demand
Technology: Compact Fluorescent Lamps [i]

A.1 Introduction

Compact Fluorescent Lamp (CFL) are lamps that provide low energy lighting service through the use of a compact fluorescent light bulb (7-20 W) which replaces the normal Tungsten filament light bulb (60-100W). Replacement of incandescent lamps by CFLs is seen as efficient technology for reducing both electricity demand and GHG emission.

A.2 Technology characteristics

• CFL contributes to energy security as they reduce the electricity demand.
• Calculations show that CFLs pay back the initial investment within 900 hours of operation and also contribute to a reduction in the electricity bill over the lifetime of the bulb.
• They have a variety of shapes and end fittings for use in all types of uses.

A.3 Country specific / applicability

The most prevailing lamps in Sudan are tungsten lamps. Savers lamps are of limited use although they can fit well to all electric systems applied.

A.4 Status of technology in country

Different effort are paid by different groups in this issue e.g. Ministry of Electricity and Dams (MED), is planning to replace Incandescent Lamps (ICLs) with high quality, long life (10,000 hours) energy efficient Compact Fluorescent Lamps (CFL)

A.5 Barriers

• Lack of Consumer Information, Consumer bias towards ICLs,
• Availability of CFL especially at poor, remote and rural areas
• High Price of CFL for consumer
• Absence of policy and regulation that encourage /enforce autonomous replacement.

A.6 Benefits to economic / social and environmental development

• The savings in energy can be in the order of 10-20 times the initial costs over their lifetime and provide a reliable lighting service. Reducing power consumption for lighting by up to 80% is estimated. CFLs last up to 10 times longer than ICLs. The ICLs collected will be destroyed according to the highest environmental standards, energy saving from replacing 6,000,000 ICLs (100W) by CFL (20W) will be 835,200 MWh annually, and thus this amount of electricity will be available for further expansion hence energy security level will increase.
• Support Poverty alleviation efforts
• Reducing energy bill for families by replacement of (60 W and100 W) (ICLs) by 20 w (CFL)
• Generate jobs in the local manufacturing project
• Introducing concept of Energy Efficiency to households in Sudan by providing them with first-hand experience of cost savings through reduced electricity bills alternatively providing them with extra electricity amount at no additional cost
• Replacing 6,000,000 ICLs (100W) by CFL (20W) will reduce (GHG) emissions by 251,395 tonne CO_2 annually and other pollutants.

A.7 Costs

The price of integrated CFL is typically 3 to 10 times higher than the incandescent lamp. The cost of the CFL is approximately 2 USD.

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[i] **This fact sheet has been extracted from TNA Report – Technology Needs Assessment for Climate Change Mitigation - Sudan. You can access the complete report from the TNA project website http://tech-action.org/**