TECHNOLOGY FACTSHEET

LED TASK LIGHTING[1]

1. **Sector/ Sub Sector:** Energy

2. **Introduction:** LED technology is advancing into new categories of white light applications, including surgical task lighting, where early indications suggest significant potential for energy savings and reduced maintenance.

3. **Technology Name:** LED Task Lighting

4. **Technology Characteristics:** The halogen lamps typically used in surgical task lights suffer from relatively low luminous efficacy (lumens of light output per watt of input power), which is only worsened by filters that must be used to reduce the amount of non-visible radiation they emit. LED surgical task lights typically do not require such filtering media, and their higher efficacy can allow for reductions in connected load of 50 percent or more, with potential for additional energy savings through constant-color dimming and reduced cooling load in the operating room. Furthermore, while halogen lamps are typically rated for just 1,000 to 3,000 hours and fail catastrophically (sudden and without warning), LED surgical task lights are generally rated for 25,000 to 40,000 hours and are expected to "fail" by gradually fading in brightness. The U.S. Food and Drug Administration (FDA), which grants marketing clearance for medical devices, issued product testing guidance in 1998 for surgical task lights.

5. **Country Specific Applicability:** -

6. **Status of the technology in the country and its future market potential:** -

7. **Barriers:** -

8. **Benefits:** Less maintenance, energy efficient, less weight, long lasting and reduce heat load of air conditioner

9. **Operations:** -

10. **Costs:** Initial cost is high

11. **Reference:** US Department of Energy. Energy Efficiency & Renewable Energy

[1] **This fact sheet has been extracted from TNA Report – Mitigation for Sri Lanka. You can access the complete report from the TNA project website** http://tech-action.org/

Parameter	Benefit
Efficacy	LEDs require less wattage to produce equivalent light levels.
Heat in Beam	Substantial thermal energy must be conducted away from LEDs, but they radiate relatively little ultraviolet (UV) or infrared (IR) energy.
Dimmability	Although system compatibility must be verified on a case-by-case basis, LEDs may offer dimming without color shift or flicker, thereby yielding additional energy savings.
Maintenance	LEDs promise significantly greater life and a non-catastrophic failure mechanism.