

# **South Asia Women in Energy Regional Center of Excellence (SAWIE-RCE):**

## **A review of proposed activities**

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- **Centers Reviewed**
  - 5 in United States, 5 in other countries
  - Note: not all centers reviewed are women or EE specific
- **SAWIE Activities**
  - Research, education, training, product testing, showcasing
- **Regional Center for Energy Efficient Lighting**
- **Conclusions and Take Away Points**

# SAWIE –RCE: Objectives

- Skills and knowledge for efficient energy mgt. at household and community level;
- Best practice in energy conservation
- RE applications such as solar cooker, solar lighting
- Women entrepreneurship along supply chain
- Enhance income through energy access
- Enhance women empowerment
- Encourage networking
- Serve as regional resource center

# SAWIE -Activities

- Short term training
- Vocational training
- Household energy auditing
- Energy efficient cookstove program
- EE Lighting
- Alternate cooking fuels; RE technologies
- Agricultural productivity
- Regional best practices

# SAWIE –RCE: Outcomes

- Empowerment of women (social and economic)
- Application of S&T for upliftment of women
- EE & RE applications
- Women as change agents
- Rising status of women in society

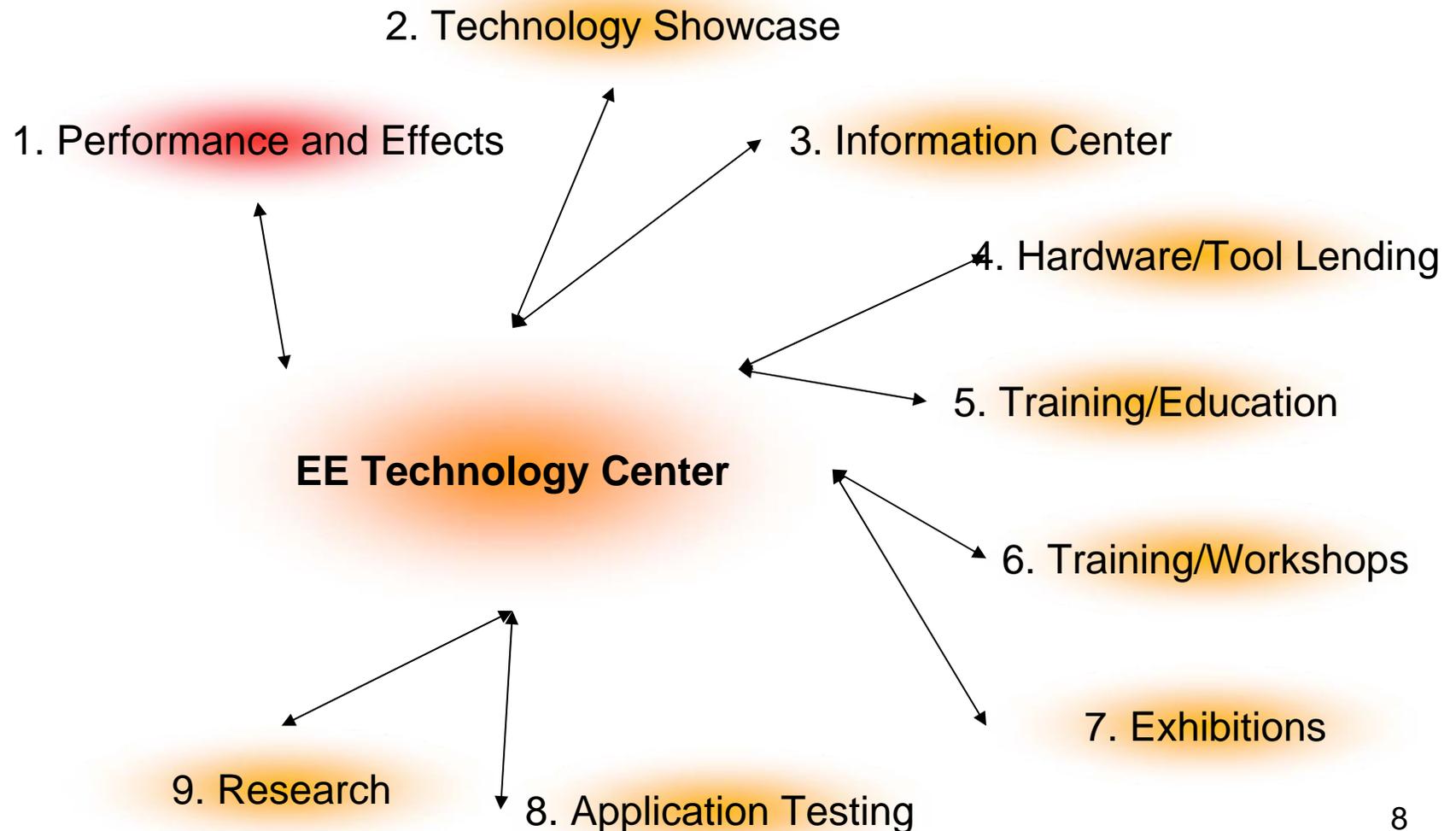
# Energy Efficiency Centers Reviewed

- **United States**
  - Energy Center of Wisconsin (1989)
  - Iowa Energy Center (1990)
  - Lighting Research Institute (1988)
  - Pacific Energy Center (1991)
  - Southern California Edison Customer Technology Application Center (1990)
  
- **Other Countries**
  - Beijing Energy Efficiency Center (1993)
  - Energy Conservation Center, Japan (1978)
  - Energy Conservation Center, Thailand (2002?)
  - Energy Saving Trust, UK (1992)
  - Russian Center for Energy Efficiency (1992)

# SAWIE - RCE

- Public Education for Woman
- Facilitate demonstration; showcase products
- Facilitate technology development, incubation
- Catalyze RE/EE market transformation and business growth

# SAWIE Center of Excellence



# SAWIE Center Activities

- **Research**
  - Technology R&D, Policy, Program, Investment
- **Education**
  - Outreach, public awareness
  - Training – workshops, classes, demonstrations
- **On-site Services**
  - Technology showcase / exhibition
  - Conferencing / training facilities
  - Application / product testing
  - Information library, Hardware tool lending library
- **Other**
  - Conduct energy audits
  - Market conditioning – analyze and promote policy reform
  - Provide grants

# The Concept of RCEEL in Sri Lanka

## A Regional Center of Excellence for Lightning (RCEEL)

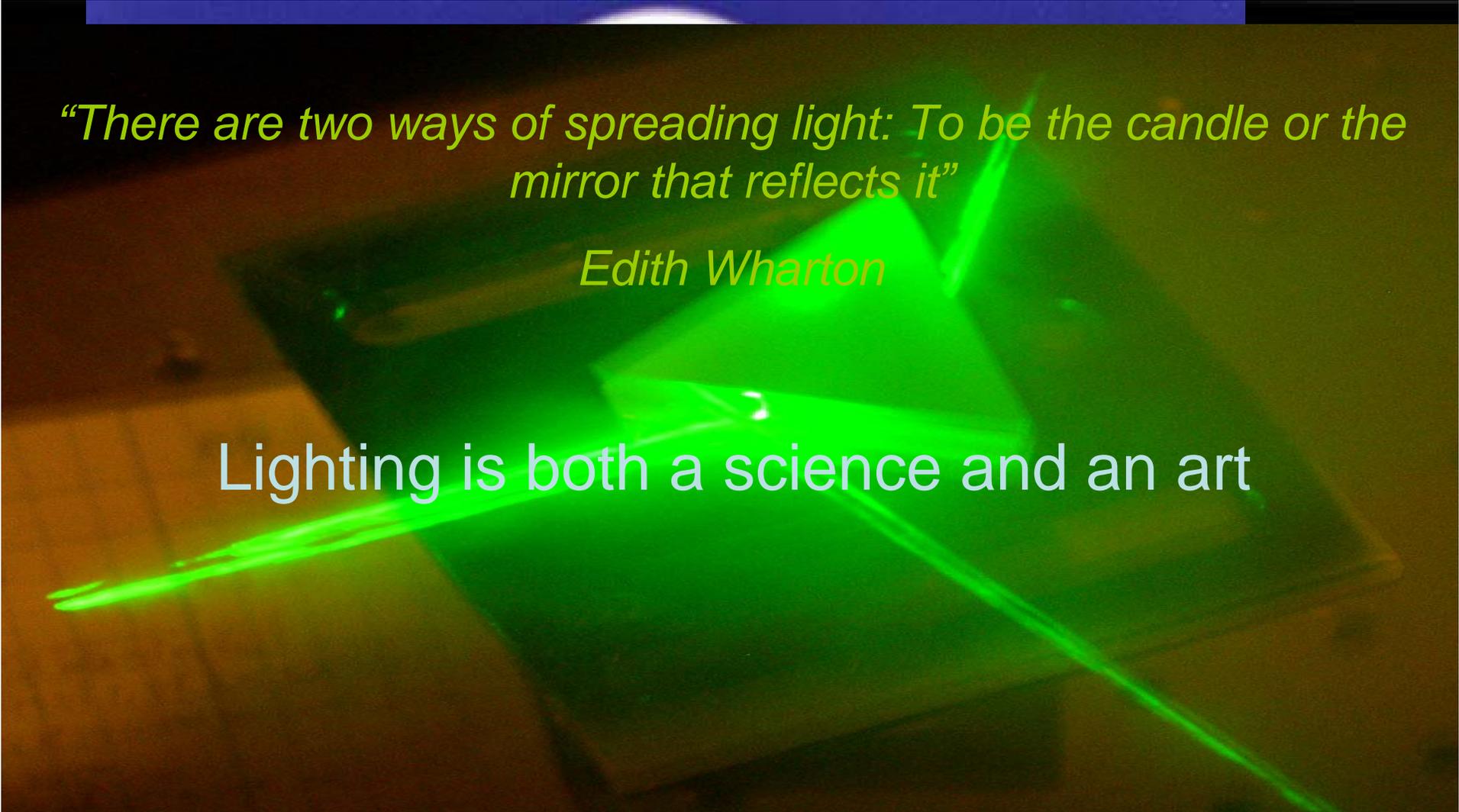
A unique culmination of cutting edge innovation in technology, art, architecture and design.



# Regional Center for EE Lighting

- SARI/E in collaboration with the Sustainable Energy Authority, Govt. of Sri Lanka launched the Regional Center for Energy Efficient Lighting (RCEEL) on April 27, 2009 at a well attended function at Colombo.
- RCEEL is the first in a series of energy efficiency *Centres of Excellence* to be established in countries across South Asia. The Sri Lanka-based centre will bring public and private enterprises together to focus on energy efficient lighting that will reduce greenhouse gas emissions, be more cost-effective, increase consumer accessibility to energy, and promote energy efficiency throughout the region.

# Lighting Technology



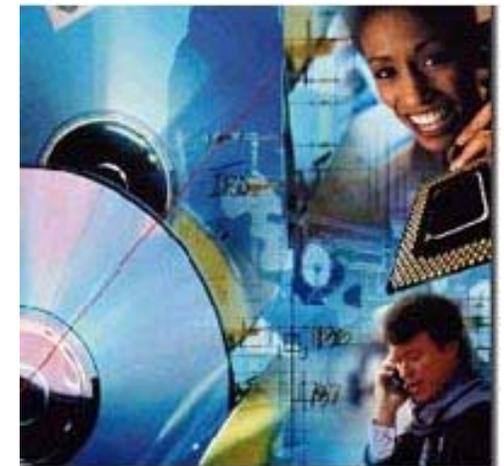
*“There are two ways of spreading light: To be the candle or the mirror that reflects it”*

*Edith Wharton*

Lighting is both a science and an art

# Technology Showcase

- Showcase various existing lighting products and technologies with focus on Efficient Lighting Products,
  - Residential, Commercial and Industrial
- Demonstrate Lighting Technologies and Applications for
  - End Users ,Utilities & Manufacturers,
  - Design and construction professionals,
- Introduction of quality and standards inscribed under BIS, CIE, ISO, CEN, IESNA, etc.



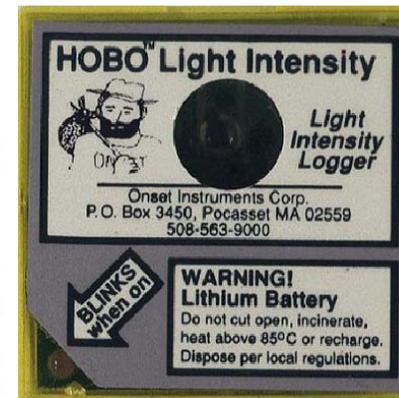
# Information Hub

- Single point reference world-class library with lighting books, periodicals, research papers – AN INFORMATION HUB ON TOTAL LIGHTING.
- Functions on a web-interactive “virtual” basis with lighting technology centers, libraries, training and educational institutions and programs world over.



# Hardware Tool Lending Library

- Tools to be made available for students, professionals, utilities, ESCOs, and other agencies in need of such tools.
- Requisite training to be provided in association with training and education programs.



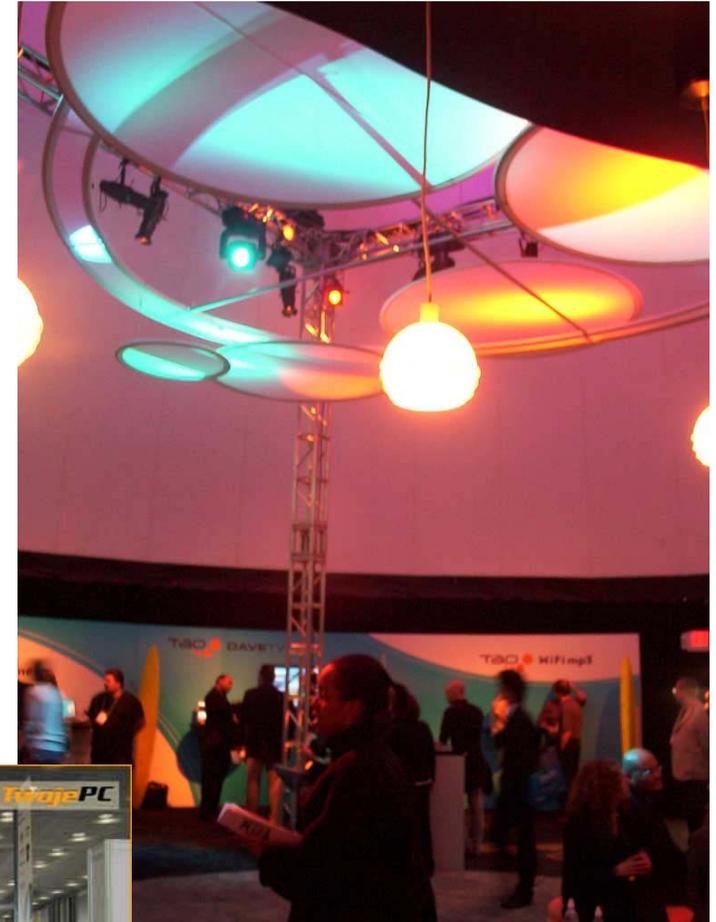
# Training and Education; Lighting Audits

- Educational services to residential, commercial, and industrial customers,
- Services ranging from lighting energy audits to advanced controls workshops, both on-site and off-site.
- Work in partnership with educational institutes and industry



# Seminar/Workshop/Museum & Exhibition

- Out-reach through demonstration facility
- Providing practitioners the hands-on opportunity to learn about lighting-efficiency technologies, and lighting design approaches.
- Coordinated outreach and support efforts like Technical seminars, workshops and open exhibitions etc



# Application Testing

- Provide services and facilities aimed at supporting end users for testing and measuring performance of lighting technologies and products; different approaches to electric lighting in buildings.
- Product manufacturers will also access application testing services and advertise the results to inform consumers on the performance of their lighting appliances.



# Research/New frontiers

- Facilitate research funding and conduct research in partnership with consortia comprising lighting manufacturers, electric utilities and the design/engineering professional community.
- Partnerships are facilitated and supported through state-of-the-art lighting and the applications testing facilities at the center
- Facilitate research funding of emerging technologies such as LEDs and concepts such as bio-lighting



# Performance and Effects

- A place for celebration of light through performances and exhibitions
- Draw visitors to enjoy the performances while learning about other aspects of light



# EE Centers – Illustrative Examples of Differentiated Goals

- Center for Efficient Lighting
- Center for Electrical Motors & Motor Drives
- Center for Efficient Home Appliances
- Center for Industrial Applications of EE
- Center for Agricultural Pumping
- Center for Green Buildings

# Conclusions and Take Away Points

- International experiences with Centers offer potential models to be emulated.
- Sustainability of SAWIE is key.
- Specialization can bring deep technical expertise to target audience / customer.
- There is no right or wrong, good or bad model.
- The State Govt. of Kerala, India has in principle agreed to establish SAWIE-RCE



THANK YOU