



LIGHTING IN INDIA

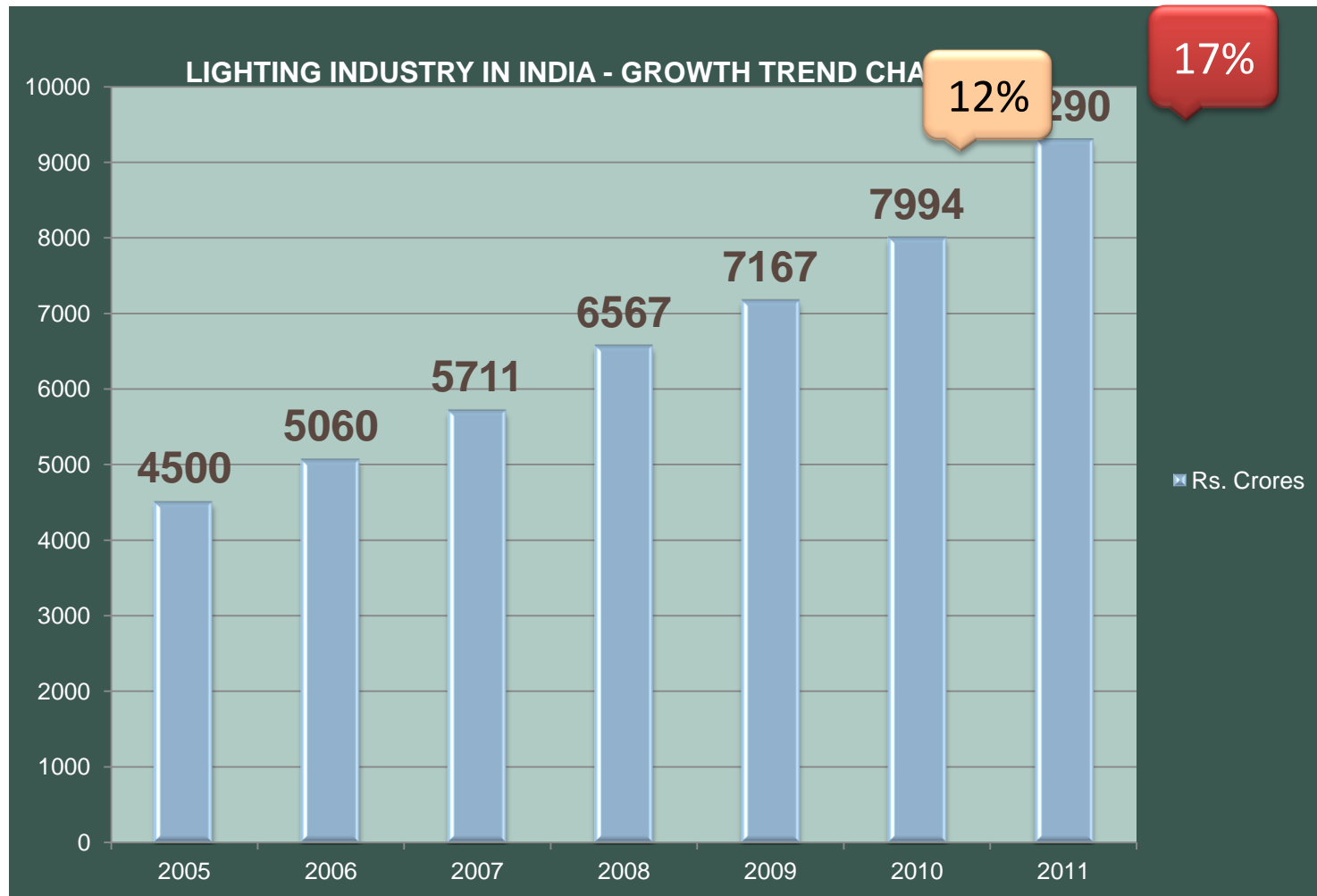
The Manufacturers' view

Shyam Sujan

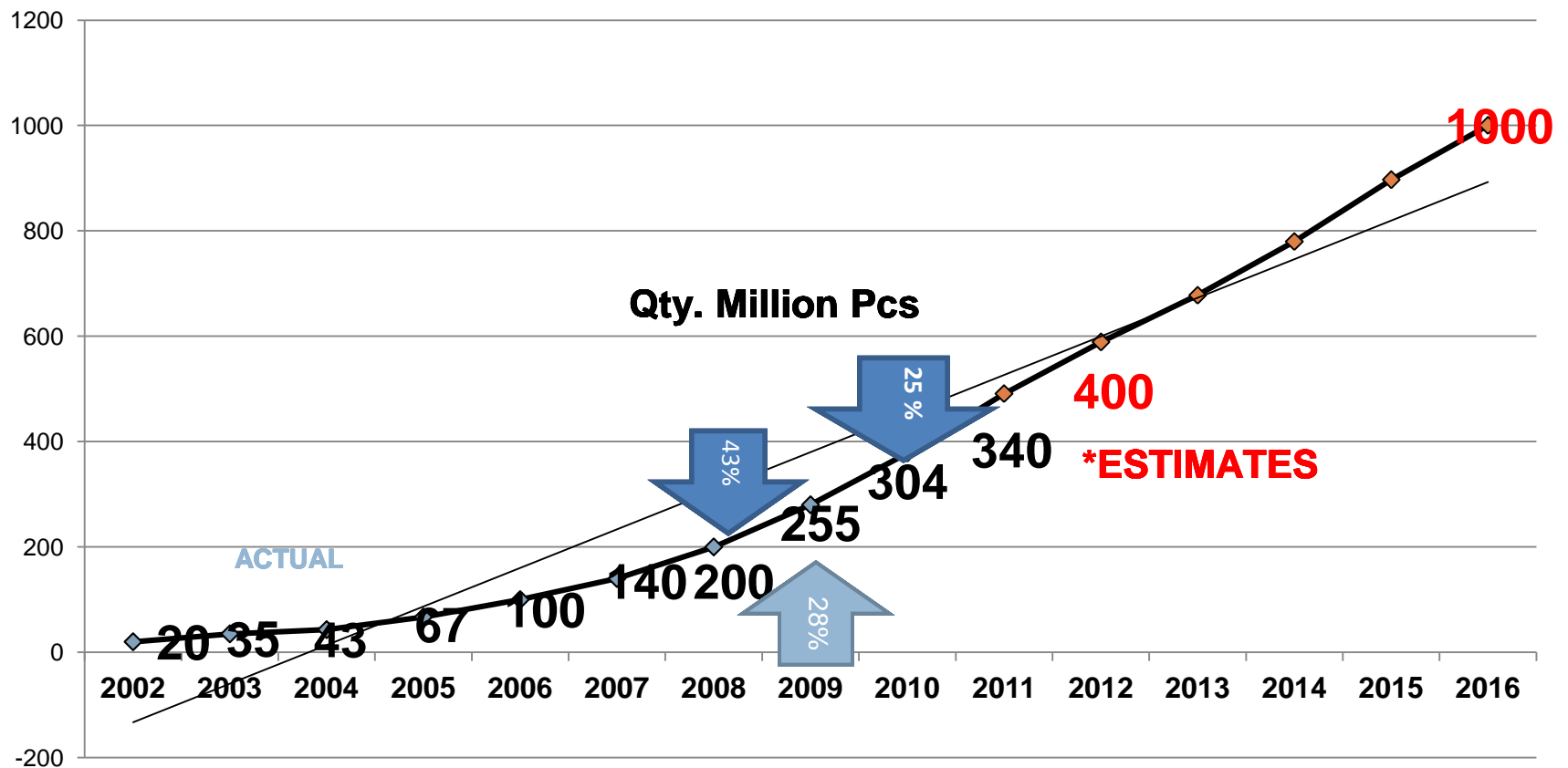
ELCOMA



Lighting Industry in India



Growth of CFLs in India



CFL Manufacturing capacity in India

YEAR	No of Manufacturers	Manufacturing capacity (Million pieces p.a.)
2002	5	19
2003	7	22
2004	10	29
2005	12	50
2006	13	80
2007	16	130
2008	20	200
2009	32	350
2010	45	500
2011	52	730
2013 (Estimate)	60	1000

Initiatives for environment

- Mandate to bring in mercury content in CFL to less than 5 mg
- Commitment to bring it down to less than 3 mg by 2013
- Statutory notification on all packing on safety care in event of accident
- Prepared National Plan for “Safe Disposal of mercury containing EOL Lamps”
- Promote LED to replace various applications



LED lighting

Stimulating LED Lighting in India



Barriers identified

- ❑ Limited availability of LED technology in India
- ❑ High initial cost of LEDs that makes the pay-back period very long
- ❑ Absence of National standards for LEDs as a result industry is prone to import sub standard products
- ❑ Consumer awareness very low
- ❑ Lack of testing protocols, facilities and accredited laboratories at the national level
- ❑ No incentive either to set up manufacturing facilities in India as is the case with China

Recommendations and proposals

- **Constitution of a central Institutional mechanism (CIM)**
 - To oversee the design, development and implementation of the program
 - To put in place a robust monitoring and evaluation process by an independent agency
- **Aggregation of future LED demand - find ways to significantly enhance volumes**
- **Mandating phased domestic manufacturing**
- **Appropriate fiscal incentives - tax, duties, tariffs, incentive to manufacture in India etc**
- **To give immediate push, initially to concentrate on commercial applications**
- **Government initiative to use in Govt installations – buildings, road lights rural scheme.**
- **Government procurement**
- **Testing facility**
- **Technical standards must be mandated by BIS**
- **Domestic manufacturing**

FOCUS AREAS

- ❑ DOWN LIGHTS
- ❑ SELF BALLASTED LAMPS
- ❑ SECONDARY ROAD STREET LIGHTS

LED standards and specifications

Following Indian Standards on LED have been published.

SI No	IS No	Title
1.	16101 : 2012	General Lighting - LEDs and LED modules – Terms and Definitions
2.	16102(Part 1) : 2012	Self- Ballasted LED-Lamps for General Lighting Services Part 1 Safety Requirements
3	16102(Part 2) : 2012	Self-Ballasted LED-Lamps for General Lighting Services Part 2 Performance Requirements
4	16103(Part 1) : 2012	Led Modules for General Lighting- Safety Requirements
5	15885(Part 2/Sec 13) : 2012	Lamp Control Gear Part 2 Particular Requirements Section 13 d.c. or a.c. Supplied Electronic Controlgear for Led Modules
6	16104 : 2012	d.c. or a.c. Supplied Electronic Control Gear for LED Modules - Performance Requirements
7	16105 : 2012	Method of Measurement of Lumen Maintenance of Solid -State Light (LED) Sources
8	16106 : 2012	Method of Electrical and Photometric Measurements of Solid-State Lighting (Led) Products
9	16108 : 2012	Photobiological Safety of Lamps and Lamp Systems

A few more standards on LED Modules (IS 16103-2) and Luminaires (IS 16107) are going to be published soon.

Awareness programs

- Workshops / Seminars
- LED Conclaves (Exhibition and Workshops)
 - Delhi done in May 2010
 - August 2011 – Hyderabad
 - January 2012– Mumbai
 - MEGA LED SEMINAR IN NEW DELHI IN OCTOBER 2012
 - Bi-Annual LED Exhibition and Seminar from 2013 onwards
- 8 More workshops to be organized in Kolkatta, Bangalore, Chandigarh, Jaipur, Lucknow, and Ahmadabad etc during 2013
- Publication of LED Street lighting guide for Municipalities and Public Works Departments
- Articles and advertisements in special magazines
- Media publicity

Government support (1)

- White paper by BEE on “Stimulating LED in India”
- Government notifications:
 - Ministry of Commerce issued notification to Delhi Government to ensure all showrooms or show windows using Incandescent Lamp or halogen lamps to immediately replace with LED down lighters. More States to follow
 - Ministry of Commerce issued advisory to Ministry of Urban Development to Ensure all medium and small municipalities change to LED Street Lighting
 - Bureau of Energy Efficiency started Pilot programs to encourage use of LED streetlights for Municipalities and Local Bodies for secondary roads, parks and parking areas etc. – 180 bodies being funded

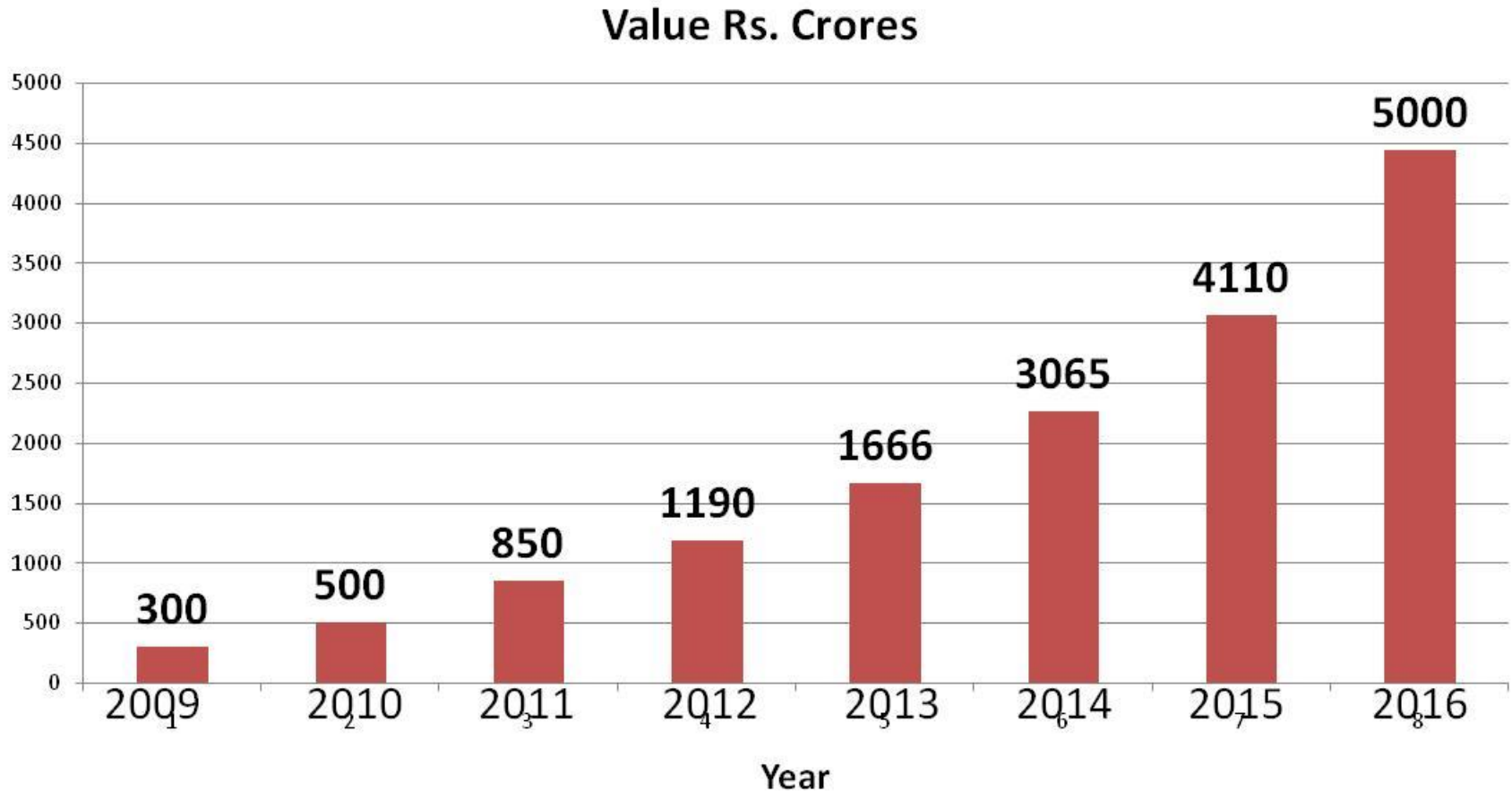
Government support (2)

- Government bulk procurement
 - Preparing bulk requirement of Railways, Airport authority, Urban Housing, Highways and other large development projects to create a large demand to encourage industry to establish
 - LED Self Ballasted Lamp for “Bachat Lamp Yojna”
 - All Households within 5 km of Power Generating Plants to be given one LED bulb free
- Test Labs
 - Govt subsidizing establishment of LED test facilities at existing Test Lab (About Rs. 25 Crores)
 - Expected at least 3 more Test Labs supported by Government
 - Total expected 12 Test Labs by 2013

ELCOMA LED Lighting Chapter

- To cover all other LED activities an LED Chapter created within ELCOMA
- Membership extended to:
 - **Phase I**
 - All LED Lighting Manufactures or assemblers – small, medium or large
 - **Phase II**
 - Signage Manufacturers
 - Traffic Signals and direction board manufactures
 - Security Lighting
 - **Phase III**
 - ESCOs
 - Architects, Designers, Specifiers, Engineers
 - Test Laboratories

Projected growth of LED business in India

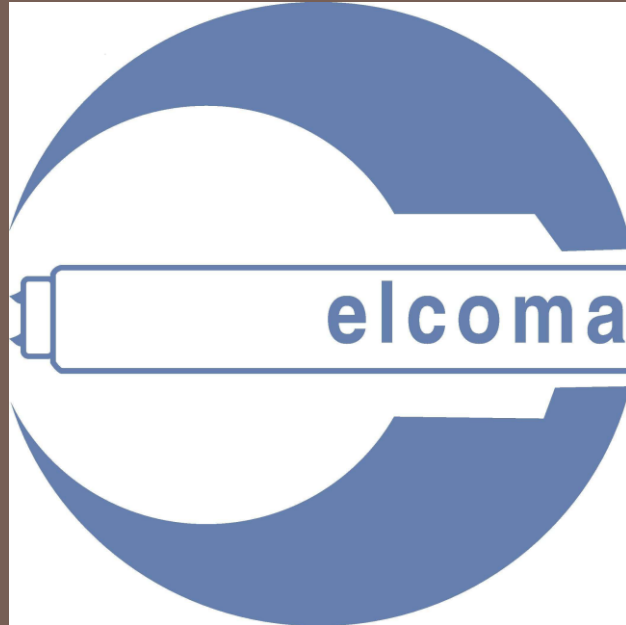


Demand and Supply

- Challenges to INDIAN MANUFACTURERS
- CFL
 - Large capacity build-up (750 Million pieces p.a.) – demand 400 million pcs – ready for exports
 - Anti Dumping duty – imports restricted
 - China costs lower – competition in export
 - Indian standards mandatory and have additional features like HPF etc. – modification required for export

Challenges - LED

- ❑ Chip is imported
- ❑ No government subsidy for manufacturers
- ❑ Mushrooming of small assemblers (> 5000 as against 12 to 15 large manufacturers)
- ❑ VAT and tariffs
- ❑ Standards
- ❑ Test labs
- ❑ Awareness



THANK YOU !

Electric Lamp & Component Manufacturers Association of
India

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