

# Market Transformation for Energy Efficient Lighting

*National Conclave on*  
**Energy Efficient  
Light Emitting Diodes**  
Two days workshop, three days exhibition &  
live demonstration of LED Lighting

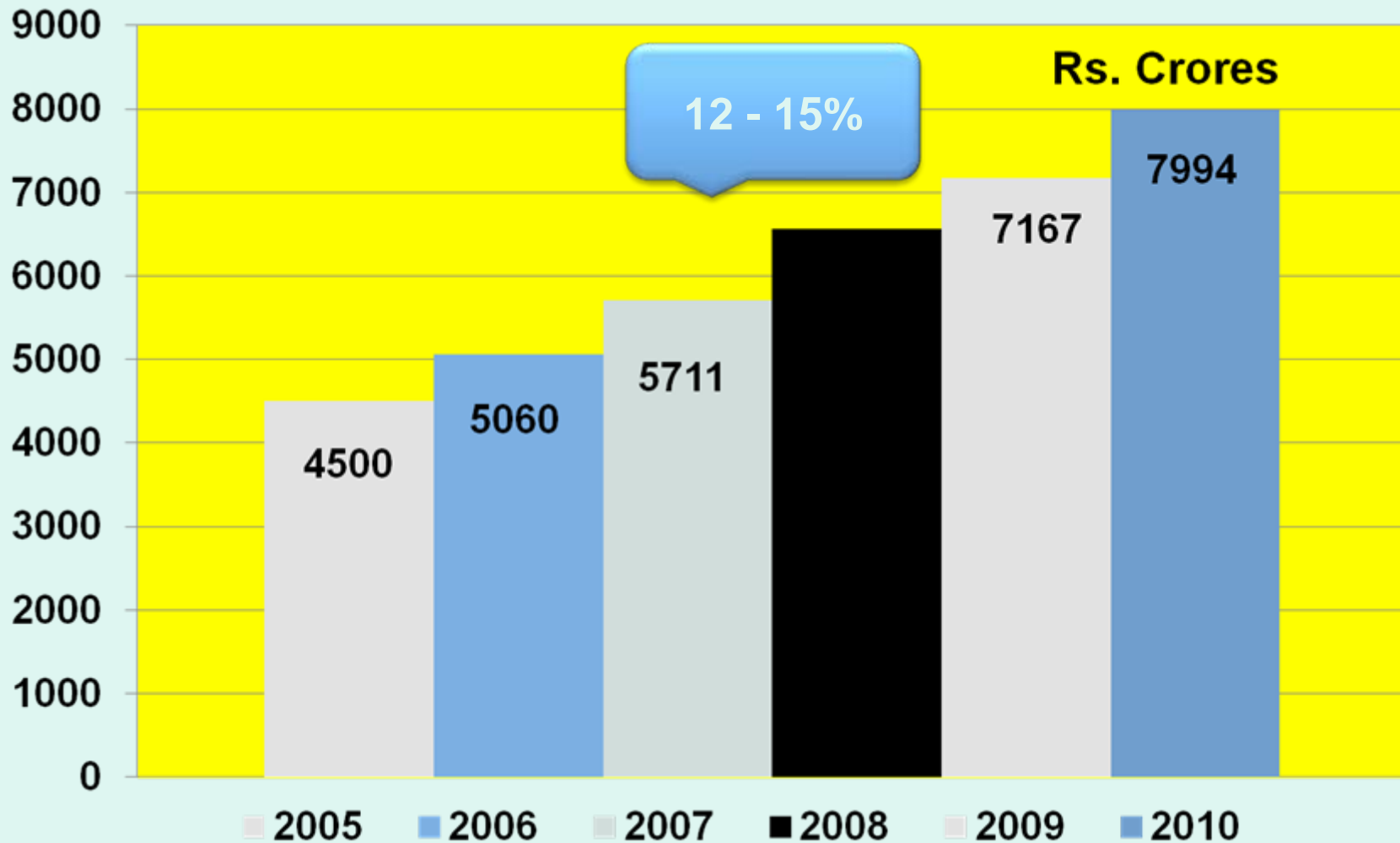
 **ELCOMA**  
Electric Lamp & Component  
Manufacturers' Association of India

Sponsored by:

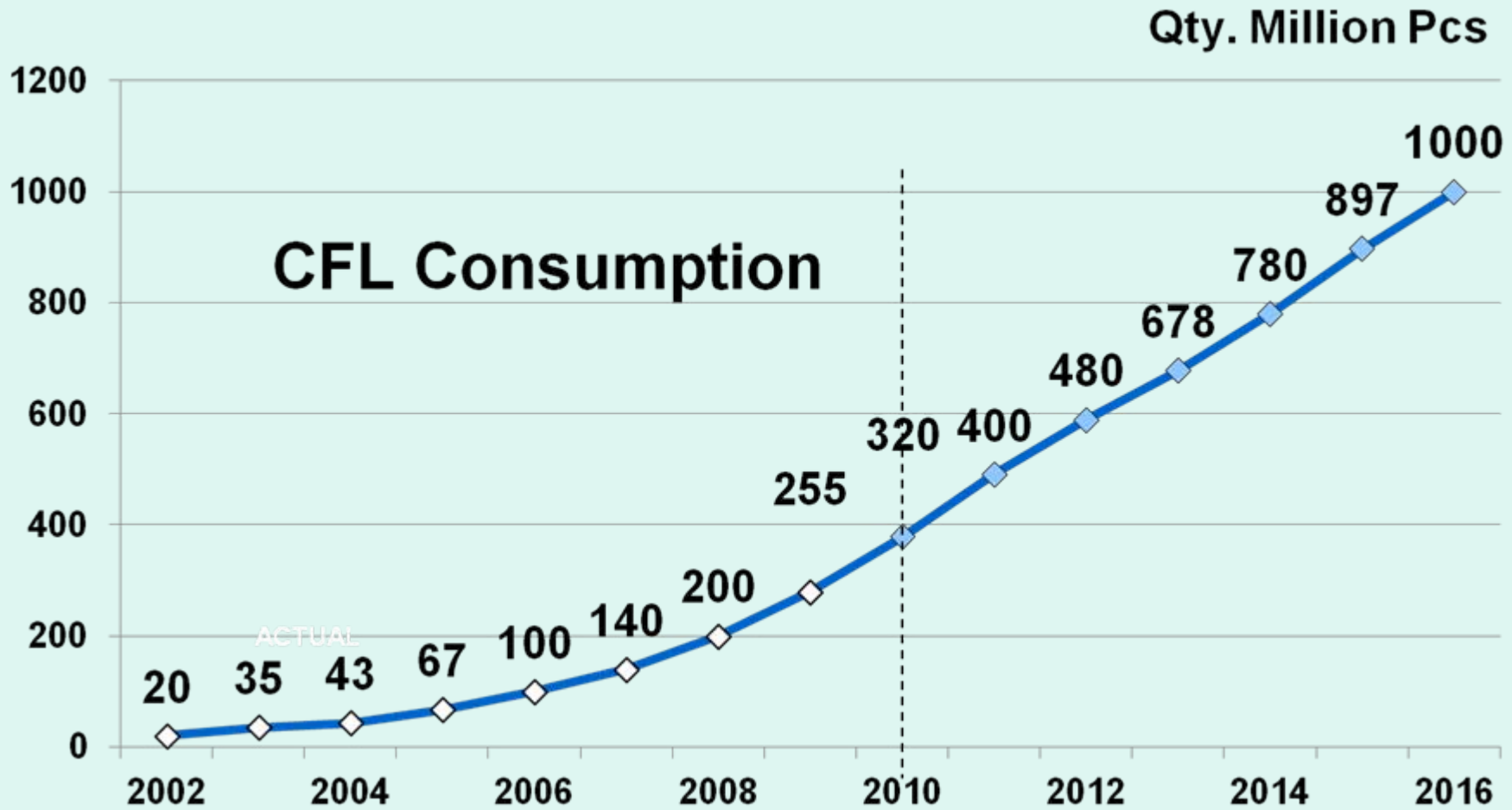


**January 5-6, 2012 - Nehru Centre, Worli Mumbai**

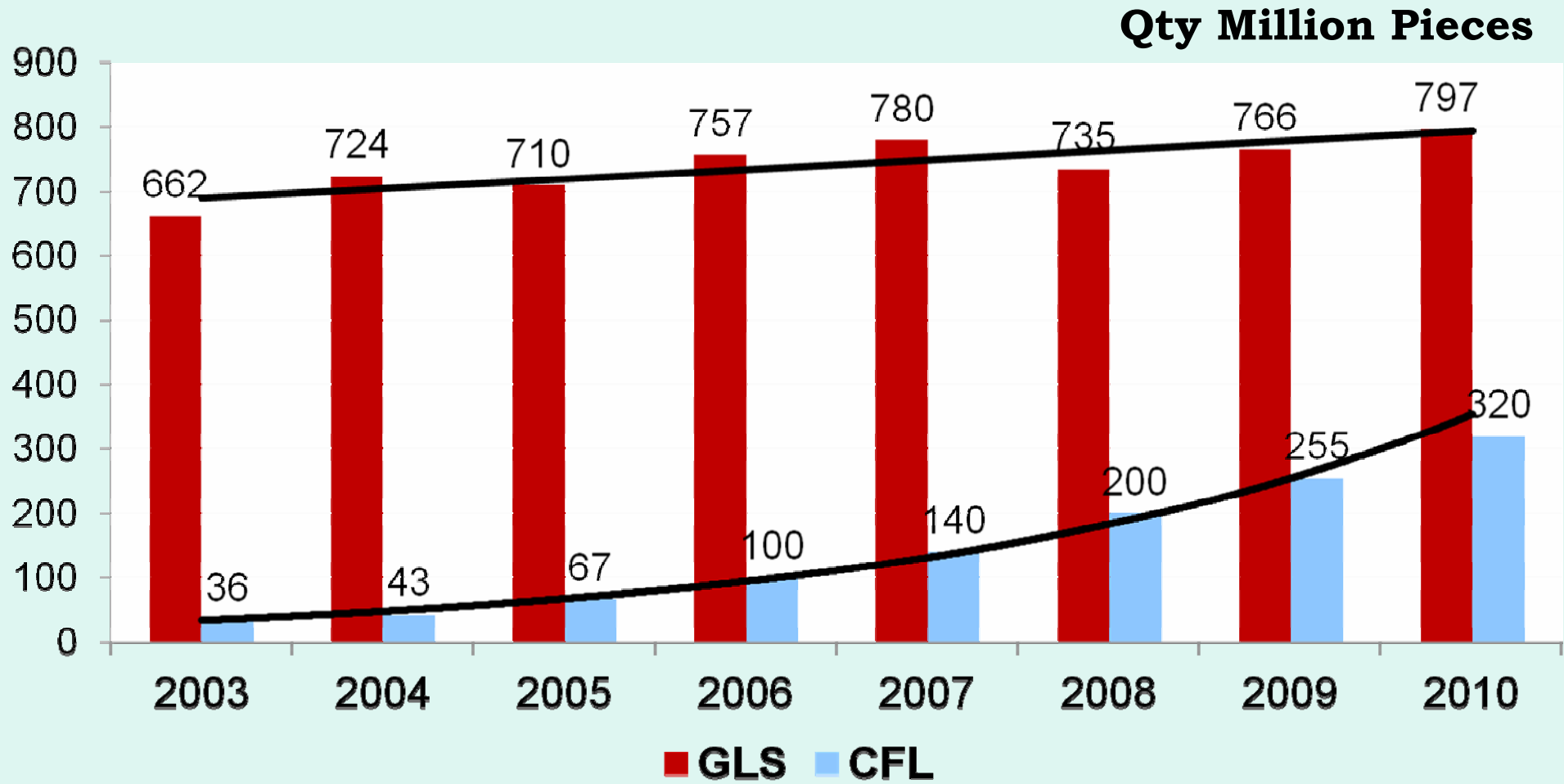
# Lighting Industry Growth



# Growth of CFL in India



# Growth – GLS Vs CFL



# Growth of CFL manufacturing Capacity in India

<b>YEAR</b>	<b>No of Manufacturers</b>	<b>Manufacturing capacity (Million pieces p.a.)</b>
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

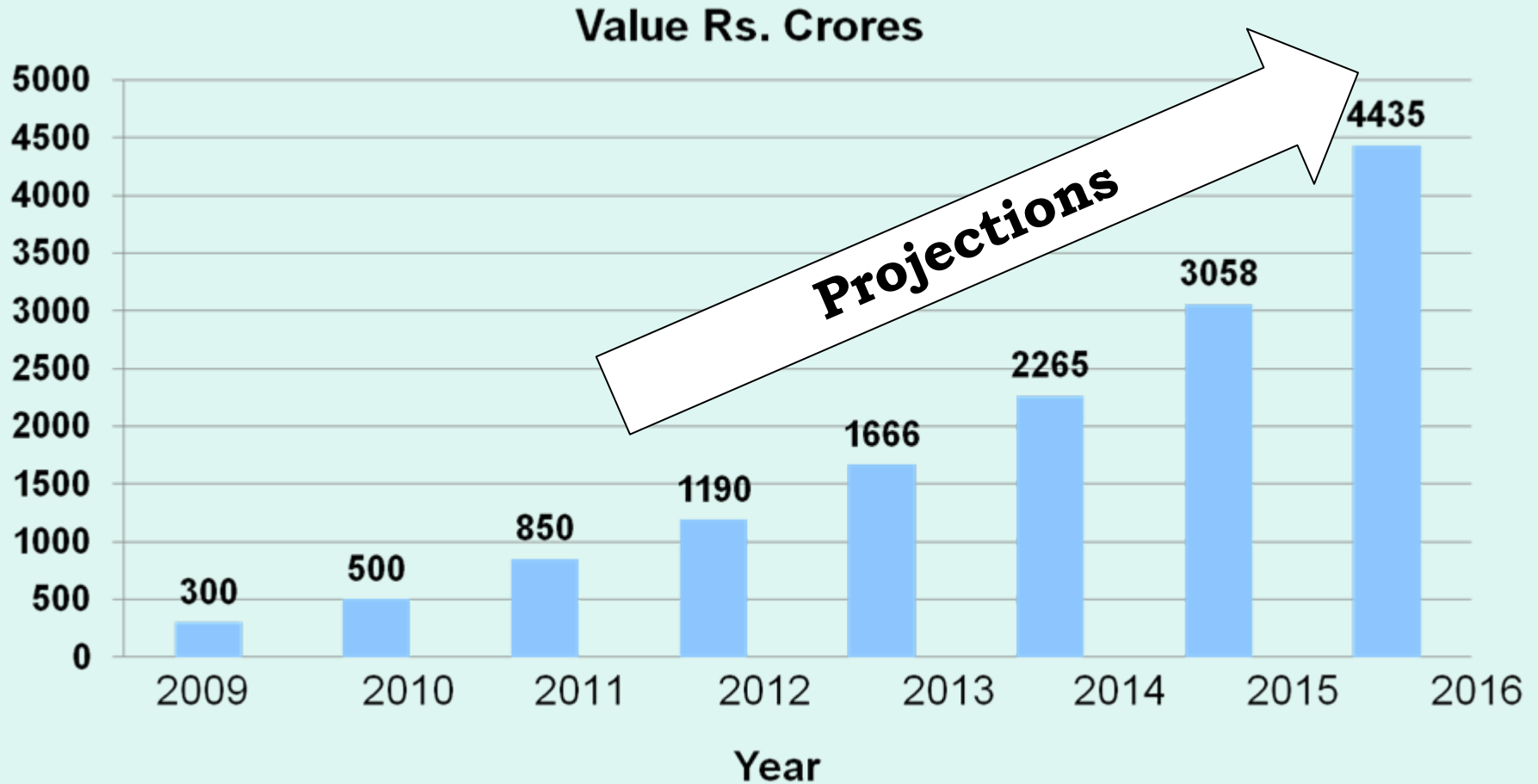
# Progress of LED Lighting Business

- 2009 - < Rs. 300 Crores
- 2010 ~ Rs. 500 Crores
- Estimated 2011 – Rs. 850 Crores
- Estimated 2016 – Rs. 5000 Crores (US\$ 1 Billion)

# Industry penetration to LED Business

- 12 large, 15 Medium and about 600 small manufacturers in LED business
- All major chip manufacturers have based offices in India
- Binning and Packaging started in India
- Tie up with major Global Luminaire manufacturers by most of large companies to start manufacture in India

# Growth of LED business in India





# Barriers

- LED technology availability 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
- Lack of Consumer awareness
- Lack of testing protocols, facilities and accredited laboratories at the national level
- No incentive either to set up manufacturing facilities

# Government Support

- **White paper by BEE on “Stimulating LED in India”**
- **Study on Demand Aggregation**
- **Government initiatives:**
  - **All showrooms or show windows using Incandescent Lamp or halogen lamps to replace with LED down lighters**
  - **Pilot programs to encourage use of LED streetlights for Municipalities, Local Bodies for secondary roads, parks and parking areas etc.**
- **Public 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**
- **Testing Labs**
  - **Govt subsidizing establishment of LED test facilities at existing Test Lab (About Rs. 25 Crores)**

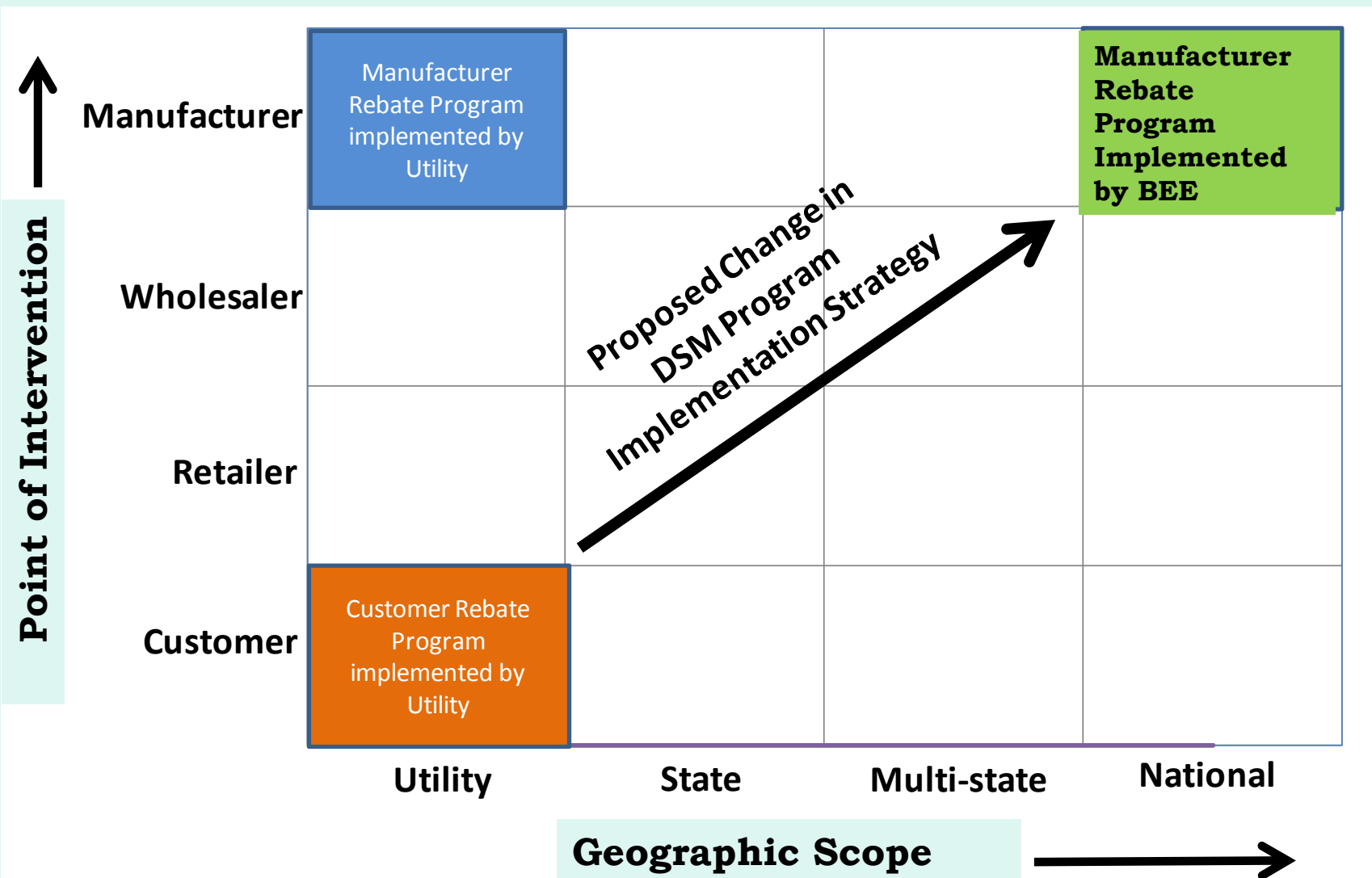
# Super Efficient Equipment Program

- National Action Plan on Climate Change (NAPCC)
  - National Mission for Enhanced Energy Efficiency (NMEEE)
- NMEEE
  - Four initiatives
  - Market Transformation for Energy Efficiency (MTEE) for measures to accelerate shift to EE appliances through
    - *Super Efficient Equipment Program (SEEP)*

# Key Policy Objectives of SEEP

- ✓ Accelerate penetration of SEE by lowering their first costs to consumers
- ✓ Develop implementable and scalable model for utility supported DSM
- ✓ Reduce transaction costs by bundling future demand across several states/ regions - higher demand to stimulate reduction in prices - necessary to sustain the market in the long run
- ✓ Enable design and deployment of appliances that are better suited to Indian conditions and accelerated adoption of superior technology
- ✓ Facilitate better coordination with the Standards and Labeling program and allow rapid ratcheting-up of energy performance standards.
- ✓ Enable India to take leadership position in designing, developing and implementing such a programme – e.g. SEAD

# Approach to Market Transformation



*By expanding geographic scope of program and giving incentives upstream, it will rapidly accelerate the shift to more efficient appliances.*

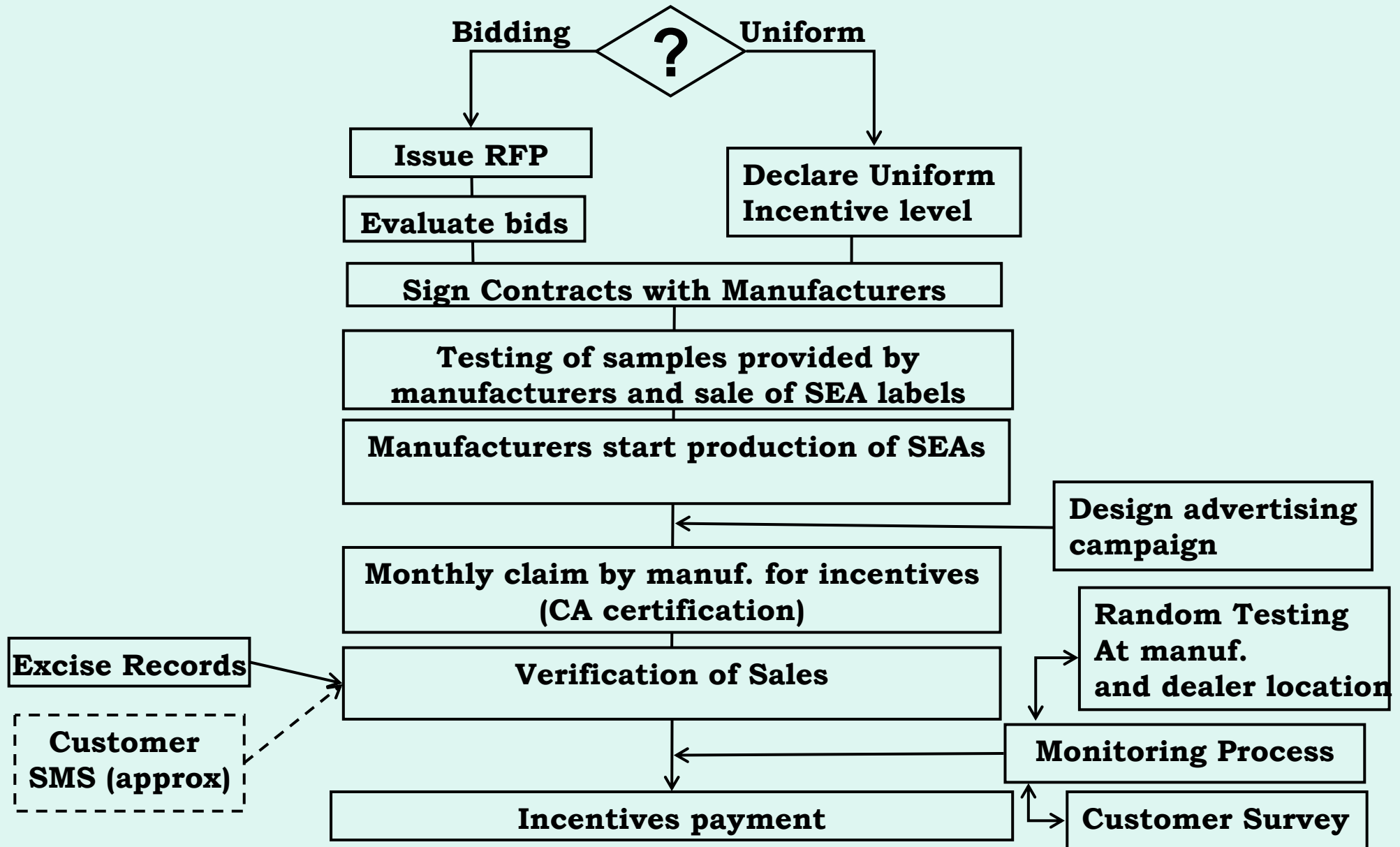
# International Experience

- i. Super efficient refrigerator program (SERP), USA
- ii. Refrigerator program, China
- iii. Clothes washer volume purchase program, Austin, USA
- iv. Sub-CFL promotion program, USA
- v. Heat pump program, Sweden

# Program Process

- i. Consultation with Stakeholders complete
- ii. Fixing Performance Standards
- iii. Determining Incentive Levels
- iv. Monitoring Incentives
- v. Establishment of Measurement, Verification and Evaluation strategy

# Program implementation framework





**For More Information**

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**Thank You**