

Consumer Electronics Labeling Program to Address Standby Power in India

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April 2, 2008



The Indian Story

- India is the 4th largest economy in the world in terms of Purchasing Power Parity (PPP) and is expected to rank 3rd by 2010.
- The middle class in India is fueling economic growth and disposable incomes are expected to grow at an average of 8.5% per year until 2015.
- As disposable incomes grow, spending on consumer durables and other consumer products has been rising rapidly.



Source: Appliance Magazine, Jan 2007



The Indian Story

- India's urban population is set to grow by 85 million over the next 10 years, further adding to the pool of middle class consumers.
- Demand for white goods grew from 3.43 million units in 1995-96 to 8.72 million in 2005-06 and is expected to reach 13.14 million in 2009-10.
- The top 67 cities in India are the key potential markets for appliances. These cities contribute 14% of the GDP.



Source: Appliance Magazine, Jan 2007

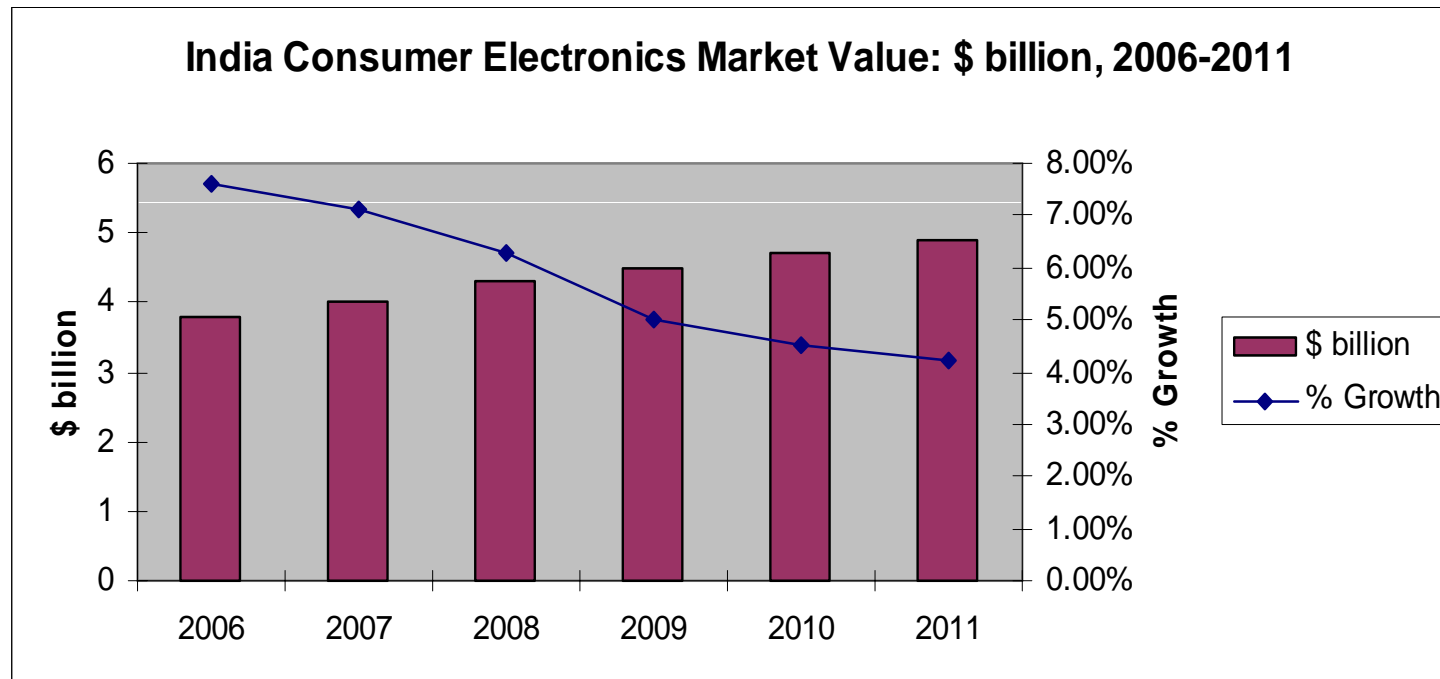


Consumer Electronics Industry in India

- The consumer electronics industry was \$ 3.89 billion in 2006 and is expected to grow to \$ 5.8 billion in 2010 at a CAGR of 11%.
- During the year 2006-07 estimated exports were 2,584 million USD (source: ElectronicIndia 2008)



Forecasted Growth of Consumer Electronics Market



Source: Datamonitor



Endorsement Labeling Program for Consumer Electronics in India

- The Energy Conservation Act 2001
- Star labeling program launched for refrigerators, air-conditioners, florescent tubular lamps and distribution transformers
- Endorsement labeling program to be launched in the year 2008 for consumer electronics products
- **Color TV's** and **Set Top Boxes** are the first products to get the endorsement label in India. Computer monitors to follow.

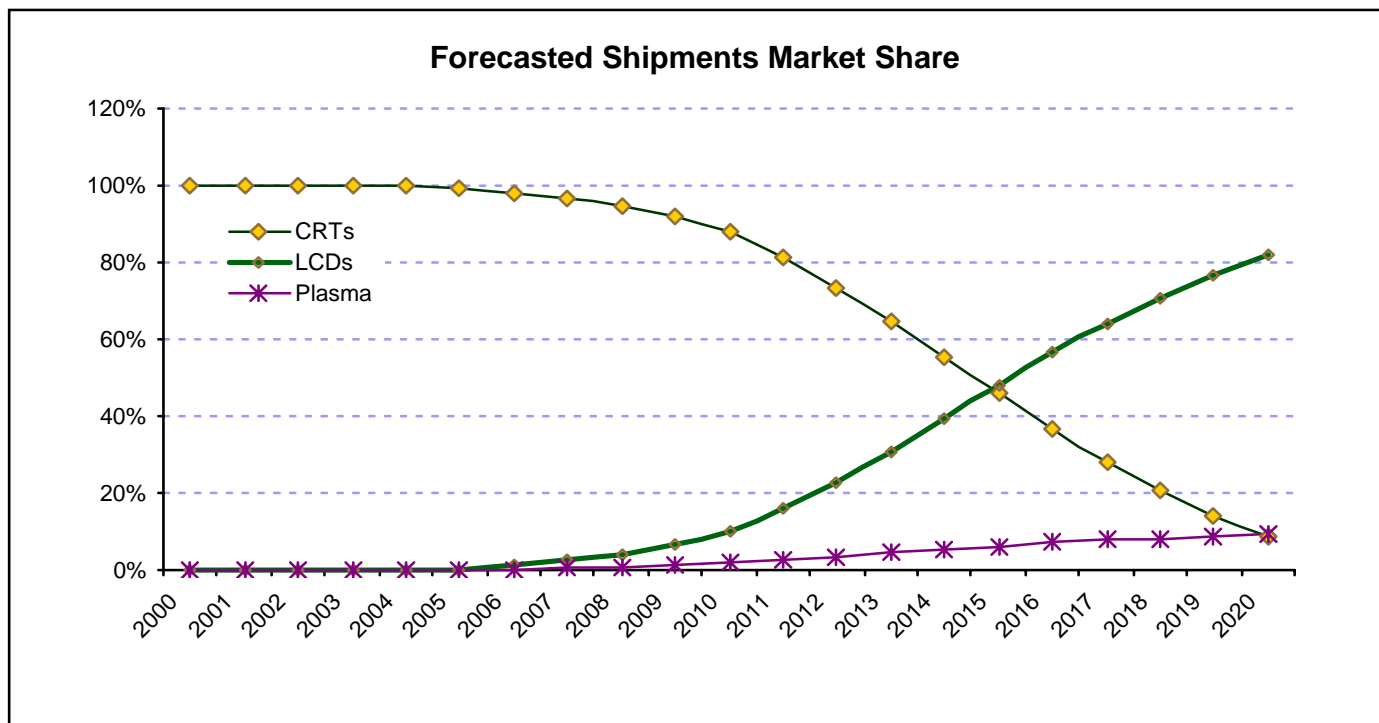


CTV Market in India

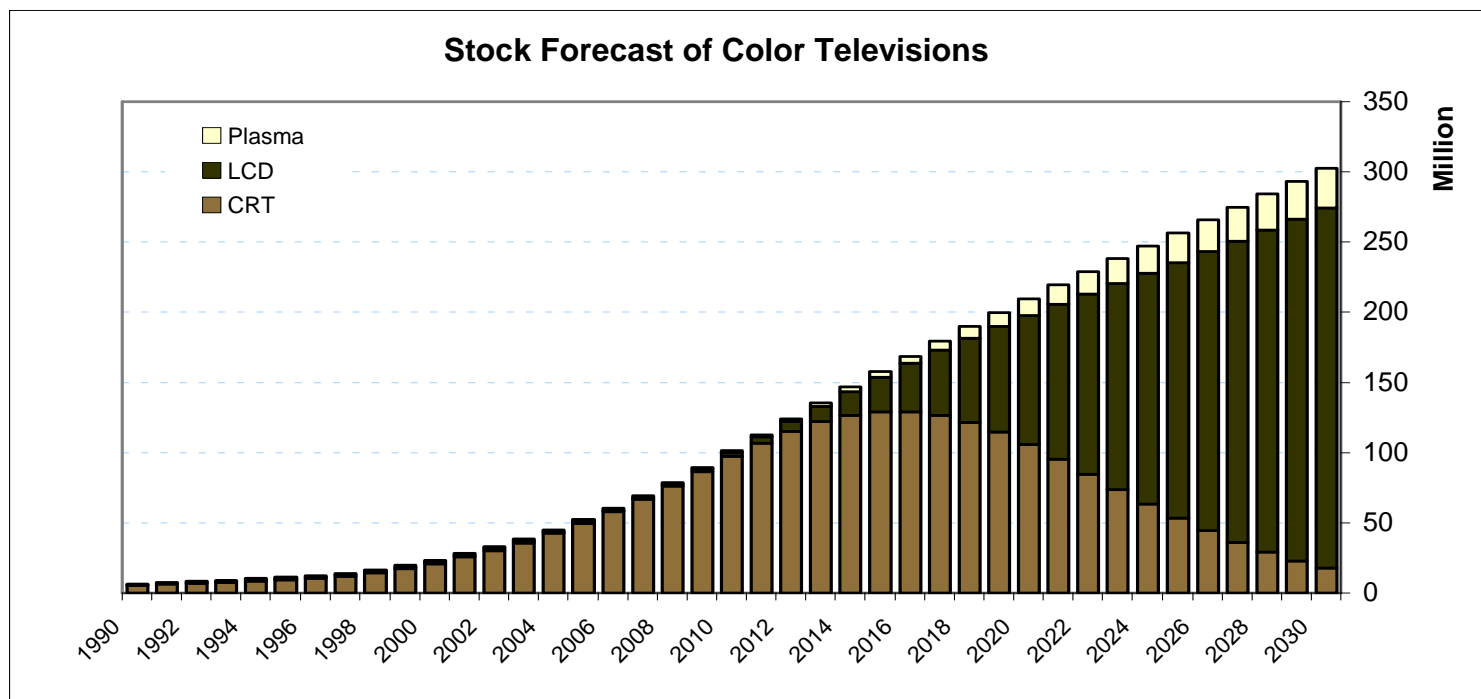
- There are 108 million TV homes in India out of which 82 million have cable & satellite access.
- The market for televisions in India is changing rapidly from the conventional CRT technology to flat panel displays (CRTs, LCD and Plasma TV's)
- Currently the split between CRT & LCD is 98% and 2%. The industry forecasts suggest LCDs' share of the market will increase to 10% by 2010



Forecasted CTV Shipment Market Share in India



Stock forecast of CTV in India



Digital pay TV Market in India

- The current estimates, on the basis of net installed paying consumers, show that there are 3.2 million DTH homes in India in December 2007
- The digital pay TV homes are expected to grow to 38 million by 2012 and 57 million by 2017
- By 2017, 32 million homes will have digital pay TV through DTH, 22 million through cable and less than 3 million through IPTV



Source: Media Partners Asia (MPA),
March 08



Industry Participation in India Endorsement Labeling Program

- Industry Associations participated in study tour to learn from ENERGY STAR experiences in US
- Associations are part of the decision making committees
- Opportunity exists as the demand for high quality & energy efficient products is increasing
- Leading brands are already taking initiatives to introduce energy efficient products in the market
- Gray market of cheap inefficient products is a concern for all



India Endorsement Labeling Program Design

- Formation of a Steering Committee for overall coordination
- Formation of product wise Technical Committees to support the technical analysis work
- Identification and prioritization of candidate products for labeling
- Review of available international and Indian (BIS) test procedures to design the procedures for India



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India Endorsement Labeling Program Design

- Assessment of existing government, industry & third party test labs
- Develop a data baseline of selected products
- Comparison with international standards and decision on thresholds for India (standby & active mode)
- Label design
- Launch of program in the market
- Awareness campaign (Along with the launch of program)



Stakeholder Participation in Labeling Program

- Bureau of Energy Efficiency (BEE) – **in Lead**
- Bureau of Indian Standards (BIS)
- Industry Associations
 - Consumer Electronics & Appliance Manufacture Association (CEAMA)
 - Manufactures Association of Information Technology (MAIT)
- Consumer Protection Agencies
 - Consumer VOICE
- Test Laboratories (Government & private)
- International Expert Agencies



Existing BIS Test Procedures

BIS Test Procedures

Televisions

- IS 4545-1 for active mode of TV
- Developed by BIS based on IEC 60107-1
- Needs to be combined with IEC 62087 or IEC 100/1081/NP to get more comprehensive active mode test procedure for TV's

Set Top Boxes

- Under process



Proposed Test Procedures for India

- **TV active mode** – BIS IS 4545-1 and IEC 62087*
- **TV standby mode** – IEC 62301
- **Set Top Box active mode** – IEC 62087 (CSA 380-06)
- **Set Top Box stand by mode** – IEC 62301 (CSA 380-06)

*IEC 100/1081/NP can be adopted once it is finalized



Recommended CTV Standard for India (Standby mode)

CRT – TV

A three tier structure is recommended for CRT TV stand-by power consumption standard

- <8 Watts – Till 2008
- <5 Watts – Till 2009
- <1 Watt – Till 2010

LCD – TV – 1.0 Watt

Plasma – TV – 1.0 Watt



Recommended CTV Standard for India (Active mode)

- Based on initial technical analysis & international review, **0.3 – 0.5 Watts/sq inch** is recommended for basic operation of TV's (without add-on's)
- The Technical Committee is required to do some more work to recommend standards for add-on's. The final standard should integrate both basic and add-on's operations.



Expected Standby Power Savings from Endorsement Labels in CTV's

Product Category	Standby Mode	Energy Savings (2010-2020)	Financial Impact (2010-2020)	Carbon Saved (2010-2020)
		mtoe	Million US\$	MT CO ₂
CRT	² 3 W	1.345	58.47	3.42
	² 1 W	1.919	83.73	4.88
LCD	² 2.1 W	0.086	3.47	0.22
	² 1.2 W	0.118	4.79	0.30
Plasma	² 1 W	0.036	1.49	0.09
	² 0.5 W	0.043	1.76	0.11



Expected Active Power Savings from Endorsement Labels in CTV's

Product Category	Active Power	Market Leaders	Energy Savings	Financial Impact	Carbon Saved
			(2010-2020)	(2010-2020)	(2010-2020)
			mtoe	Million US\$	MT CO ₂
CRT	Level 1 0.5 W/sq.in	61%	14.01	602.52	35.62
	Level 2 0.4 W/sq.in	38%	16.80	722.94	42.72
	Level 3 0.3 W/sq.in	22%	19.24	828.18	48.91
LCD	Level 1 0.5 W/sq.in	100%	0.00	0.00	0.00
	Level 2 0.4 W/sq.in	92%	1.29	52.01	3.29
	Level 3 0.3 W/sq.in	43%	4.28	172.07	10.87
Plasma	Level 1 0.5 W/sq.in	100%	0.00	0.00	0.00
	Level 2 0.4 W/sq.in	62%	0.76	30.78	1.92
	Level 3 0.3 W/sq.in	7%	1.26	51.50	3.21
All	Level 1 0.5 W/sq.in	81%	14.01	602.52	35.62
	Level 2 0.4 W/sq.in	61%	18.85	805.73	47.93
	Level 3 0.3 W/sq.in	27%	24.78	1051.74	63.00



Recommended STB Standards for India

Standby mode consumption

- Recommended **< 3 watts** for both free to air and Pay TV type of STB – (More discussion and work is required by Technical Committee)

Active Power Consumption

- Digital STB (Free to air) – 8 Watts (under Consideration)
- Digital STB (Pay TV) – 15 Watts



THANK YOU

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