

**Building on the Eco-design Directive,
EuP Group Analysis (I),
Lot 3: Sound & Imaging Equipment**

1st Stakeholder Meeting – Task 1 Projectors

Bob Harrison

Background

- In the Modern projector, not using photographic film, the dominant light beam modulating technologies are transmissive (LCD) and reflective (LCD and DLP)
- Modern Projectors (known in Germany as Beamers) are a direct development of the mechanical slide or photographic slide projector concept. A high intensity light source is concentrated through an image and the interrupted or modulated light beam directed via an optical lens assembly onto a screen where the image is reproduced.
- The modulating panels or “chips” are driven from analogue or digital video signals converted to drive data relevant to the panel technology. The video signals may come from sources external to and/or internal to the projector.
- In establishing a definition for the projector that captures current and future products in a robust way the light source, the light modulating technology and the video signal source must remain flexible.

Existing Definitions of a Projector

Prescriptive Definition

- "Projector" refers to a device which magnifies photographs or images by using a light source a lens and a screen. The criteria shall apply to LCD and DLP type projectors that display by magnifying images transmitted in connection with machines transmitting digital image information such as PC, VTR, and DVD player.

A Definition That Is Too General

- (Portable) product consisting of imaging instrument and optical components.

Suggested Definition For This Preparatory Study

- A projector is a mains powered, optical device, for processing analogue or digital video image information, in any, broadcasting, storage or networking format, to modulate a light source and project the resulting image onto a screen. Audio information, in analogue or digital format, may be processed as an optional function of the projector.

Excluded Products

- Film projectors
- Rear Projection Televisions (Covered by another EuP Mandate)
- Hand-held, principally battery powered, projectors (e.g. pico projectors) for personal multi-media product display purposes.
- From Stakeholder Feedback: E-Cinema projectors and Projectors with a brightness of greater than 5000 ANSI Lumens should be excluded. Is 5000 ANSI L. too low?

Existing Regulation and Labels

Eco Labels and Principal Criteria

Blue Angel, Korea Eco-Label, Taiwan Green Mark.

Categorisation is by Brightness (ANSI Lumens)

<1500, 1500 – 2500, >2500 ANSI Lumens

General Criteria Watts / ANSI Lumen

Strictest Criteria per category: 0.15W/L, 0.11W/L, 0.09W/L (Blue Angel 2008)

Noise dBA. 33-37dBA

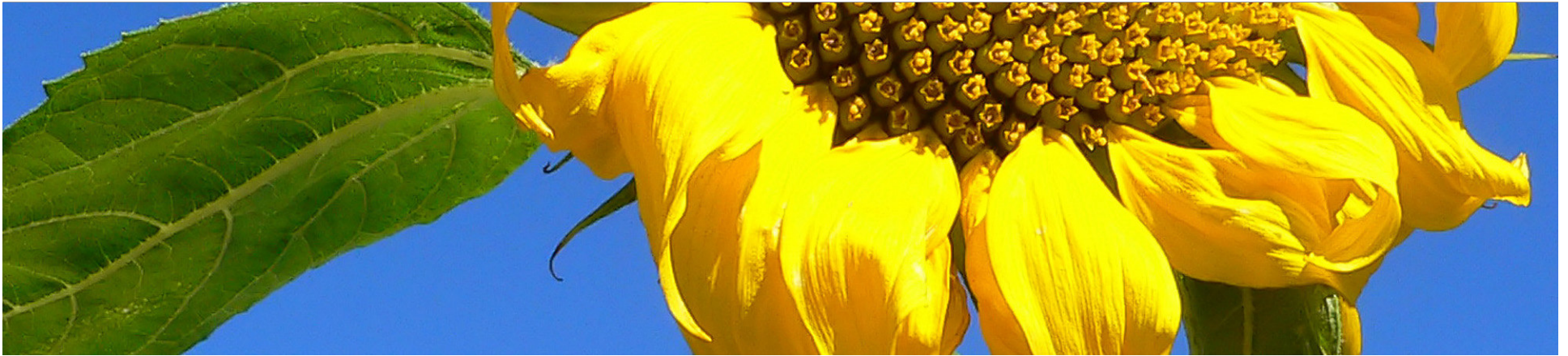
Material Restrictions (Covered by European Directives ?)

Lamp Life

Existing Legislation

Regulation and labels

- WEEE,
- RoHS,
- EuP Standby IM,
- EuP EPS IM
- Packaging Directive
- Low Voltage Directive
- EMC Directive



**Task 2 and 3:
Market and Consumer behaviour**

European Projector Market

Data For Discussion

- Product Market Falls into distinct areas
- E-Cinema and Projectors with Brightness > 5000 ANSI L. 0.1%?
- Home Cinema 10% (1000-2500 ANSI L. 180W – 300W)
- Office Portable 35% (1500–3000 ANSI L., 200W-300W)
- Office Fixed Installation 5% (2000 – 3000 ANSI L., 250W-300W)
- Schools 50% (2000-3000 ANSI L., 250W-300W)

Total Annual Sales EU 27

2008 1.6M

2012 2.0M

2016 onwards level at 2.5M

Average Life in Use, 7 Years? Lamp Replacement Rate?

STOCK EU27?

Market Trends

DLP and LCD Technologies Firmly Established

Reflective Light Engine Dominating

Drive For Higher Resolution

Move Away From Single Panel Light Modulation

LED Light Source (Implications for Measurement Methodology ?)

Built in DVD/BD Player

Built in Multimedia Docking For Source Material

Wireless Connectivity



Assumed Daily Use Patterns (On-Mode)

Schools: 5Hrs/Day, 5 Days Per Week, 40Weeks per annum.

Office: 2Hrs/Day, 5Days, 50Weeks per annum.

Home Cinema: 0.5Hrs/Day average 365 days per annum.