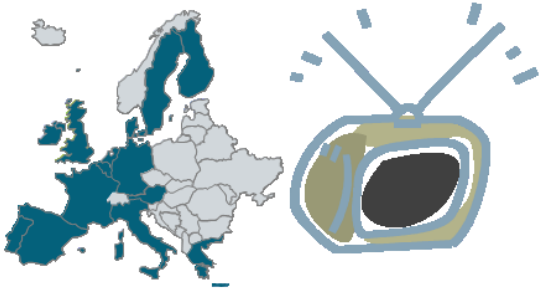
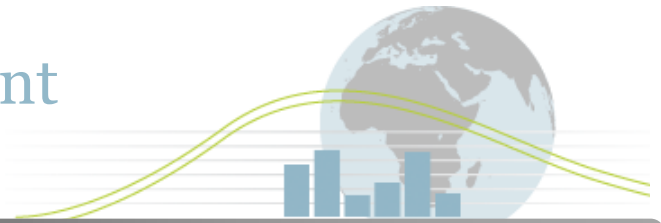


4E

Mapping Document



Country:	EU15
Technology:	Televisions
Sub Category:	All Televisions

Introduction

The first stage in the Mapping and Benchmarking process is the definition of the products, i.e. clearly setting the boundaries that define the products for use in data collection and analysis. Doing this ensures that comparison between the participating countries is done against a specific and consistent set of products.

The summary definition for this product is:

Television sets, defined as:

'A commercially available and mains electricity powered product consisting of a display and one or more tuner(s)/receiver(s) combined in a single housing. It is designed to receive, decode and display audiovisual signals and reproduce sound from analogue sources and/or digital sources that are decoded directly broadcast via satellite, cable or antenna signals. In the case of digital sources, decoding may be via any external adaptor or receiver.'

Data will be analysed based upon actual screen size, but may be presented if necessary in three size 'bins':

Screen size category	Screen size category	Screen size category
Small (11" to 26")	Medium (27" to 39")	Large (40" to 60")

For which segregation and analysis will done through data requested on:

- Screen size
- Aspect ratio (used to calculate screen area and so consumption per unit screen area)

And for which additional later analysis may be planned using data requested on:

- Screen technology
- Analogue or integrated digital
- HD or not

Exclude:

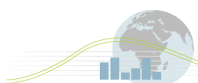
- Combination products (i.e. with integrated DVD player, VCR player / recorder, hard drive).
- Screen sizes over 60" and under 11"
- Television monitors and computer displays

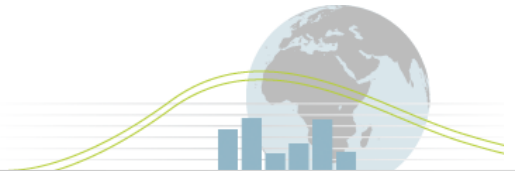
The detailed product definitions can be found at the Annex website:

<http://mappingandbenchmarking.iea-4e.org/>

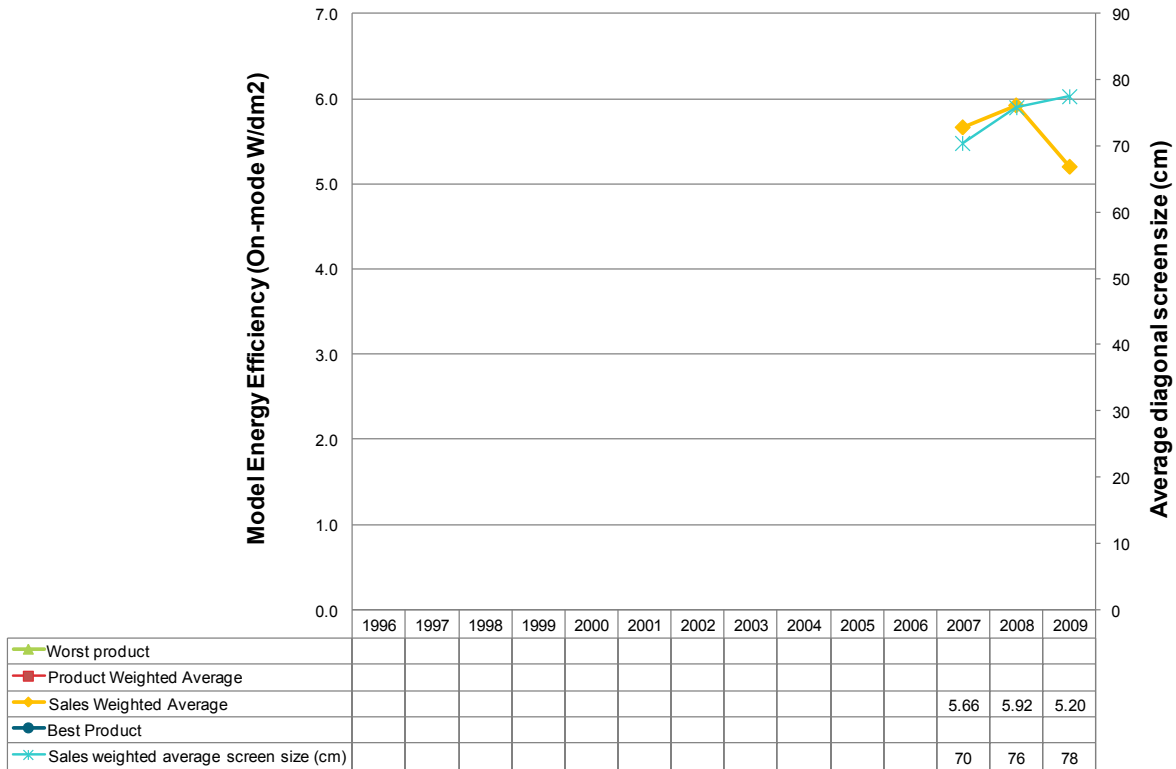
Issue date: October 10

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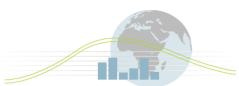


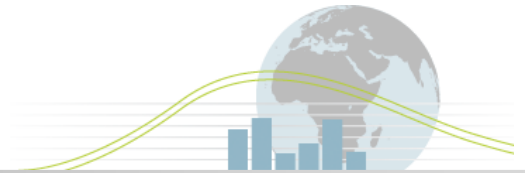
Energy Efficiency of New Televisions EU15



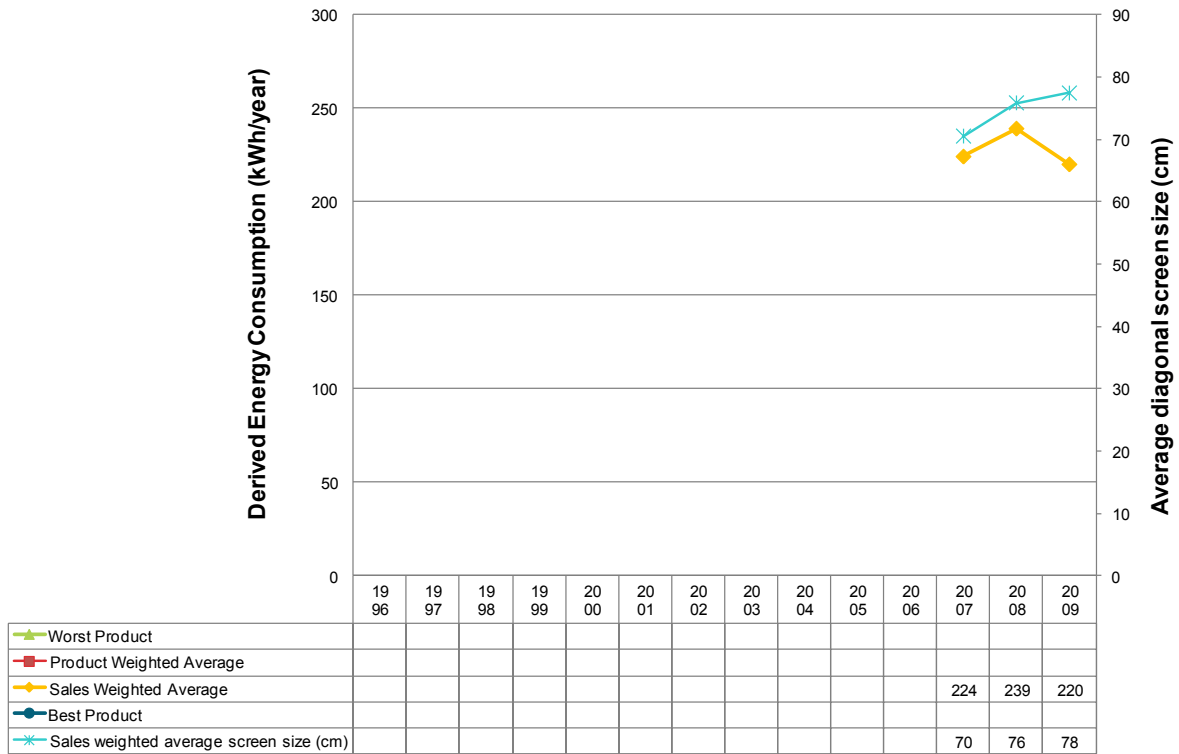
Key notes on Graph (see notes section 1)

- This data was provided by GfK and covers 15 EU countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom).
- Graph is based upon on-mode consumption only per unit screen area (W/dm^2) – it does not include standby.
- The data set used contains only sales weighted average figures and so best and worst products cannot be plotted.
- In the 2009 data set the screen technology distribution was:
 CRT: 3% LCD: 86% Plasma: 11% Other: (Not included in data set)
 Note: 'Other technologies' typically account for less than 1% of the market within the EU.
- Note: Analysis of product efficiency in the benchmarking part of this analysis (comparison between different countries) was based upon an Energy Efficiency Index (EEI), in preference to W/dm^2 . This was to enable fair comparison of efficiencies, since W/dm^2 data is highly dependent upon average screen size which varies between countries.



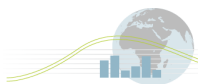


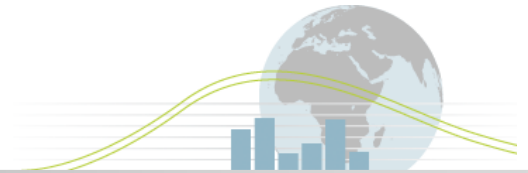
Energy Consumption of New Televisions EU15



Key notes on Graph (See notes section 2)

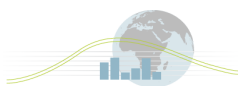
- Annual consumption is calculated based on 4 hours per day in on mode; 20 hours per day in standby.
- The data set used contains only sales weighted average figures and so best and worst products cannot be plotted.

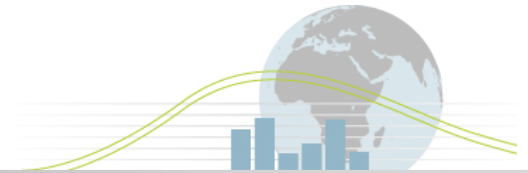




Energy Efficiency in the Installed Television Stock EU15

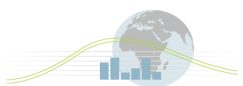
No data on the Unit Energy Efficiency of televisions in the installed stock was available to the Mapping and Benchmarking Annex at the time of publication.

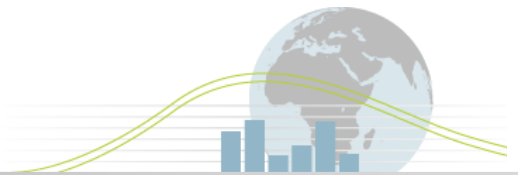




Energy Consumption in the Installed Television Stock EU15

No data on the Total Energy Consumption of televisions in the installed stock was available to the Mapping and Benchmarking Annex at the time of publication.





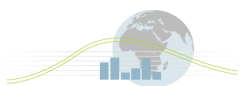
Major Policy Interventions (See notes Section 5)

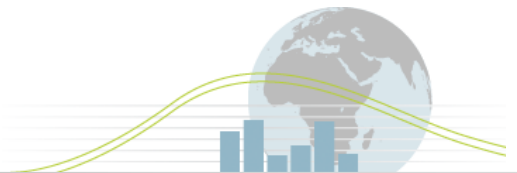
A European Eco-design directive regulation regarding televisions (EC 642/2009) came into force in August 2009 and sets Minimum Energy Performance Standards (MEPS) in two tiers, from August 2010 and April 2012. It also requires standby consumption to be less than 1W from January 2010, (2W if the standby state provides information or status display), reducing to 0.5W and 1W respectively from August 2011. It also requires an auto power down feature to automatically switch to standby after four hours from August 2011.

Tier 1 (2010 to March 2012), will remove from the market HD ready televisions of EEI 1.0 and above, and full HD televisions with EEI at above 1.07 to 1.11 (depending upon screen size). The Tier 2 MEPS from April 2012 will cover all televisions and will remove all televisions with EEI 0.8 or higher.

Cultural Issues (See Notes Section 6)

No data available.





Notes on data

Section 1: Notes on Product Efficiency

1.1 Test methodologies, Performance Standards and Labelling Requirements

The data was provided from GfK and quotes no specific test methodology. Its comparison with known sources should therefore be treated with caution. For reference the different test methods or assumptions that could be used to derive such data could result in variations of the order of 30% for any given product.

1.2 Product Efficiency Graphic

Source: Consolidated data was supplied directly from GfK for the purposes of the IEA 4E Mapping and Benchmarking Annex. The data covers the following 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

The data set does not contain data on individual products and therefore cannot be used to derive best or worst product data. Data were provided on LCD, Plasma and CRT screen types separately, with screen size, on mode and standby mode consumption averages.

Key calculations undertaken:

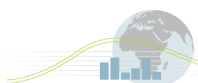
Calculating screen areas: Firstly, convert diagonal screen size inches to dm (x0.254 for inches), square the number, then multiply by the factor below. If no aspect ratio was given an assumed ratio is used (based on statistical profile of TVs at 2008). As the data was divided into 'buckets' of screen size (eg sales for televisions between 33 inches and 36 inches diagonal screen size), an assumed average screen size at the mid-point of the bucket range is used to calculate an average screen area for products in that range.

Aspect Ratio	Factor
16:9	0.427
16:10	0.449
4:3	0.48
Unknown	0.427

Usage assumptions:

Hours spent in on-mode is assumed to be 4 hours per day (as assumed for the proposed EU energy label for televisions), with the remainder in standby mode. Each value of consumption (W) is multiplied by hours per day x 365 to get Wh per year, divided by 1000 to get kWh per year.

Efficiency (W/dm²) is W in on mode, divided by screen area in square decimetres. (1 dm² = 100 cm²). This data was not provided directly by GfK and so this had to be calculated. This was done separately for CRT, LCD and plasma, which were then sales weighted to give an overall average W/dm², for all televisions in each year. An average screen area in dm² was



calculated for each 'bucket' range (12-19 inches, 20-25; 26-27; 28-31; 32; 33-36, 37, 38-39, 40-42 and over 43) based upon the mid-point of each bucket screen diagonal. This was divided into the average on mode power consumption as provided by GfK for each size bucket, and sales weighted to derive an average was assumed based upon assumptions.

Sales Weighted Energy Efficiency of New Products: (Sum of (Product Energy Efficiency by size and technology multiplied by sales volume of Product by size and technology in year) for all Products) divided by (Sum of sales volume of all Products in year)

Product Weighted Energy Efficiency of New Products. This was not used for this data set as no product specific data were available.

Proportion of data set included: All of the data made available was used in the analysis. GfK data typically covers 95% of television sales in EU markets.

Section 2: Notes on Product Consumption

2.1 Test methodologies, Performance Standards and Labelling Requirements

Refer to section 1.1.

2.2 Product Consumption Graphic

Refer to section 1.2

Section 3: Notes on Efficiency of Stock

None

Section 4: Notes on Consumption of Stock

None

Section 5: Notes on Policy Interventions

Full details of the eco-design directive regarding televisions – see

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:191:0042:0052:EN:PDF>

Section 6: Notes on Cultural Issues

None.