

EEDAL'06

INTERNATIONAL ENERGY EFFICIENCY IN
DOMESTIC APPLIANCES & LIGHTING CONFERENCE '06

Australian Mandatory Standards for
Consumer Electronic Equipment

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Introduction and Background

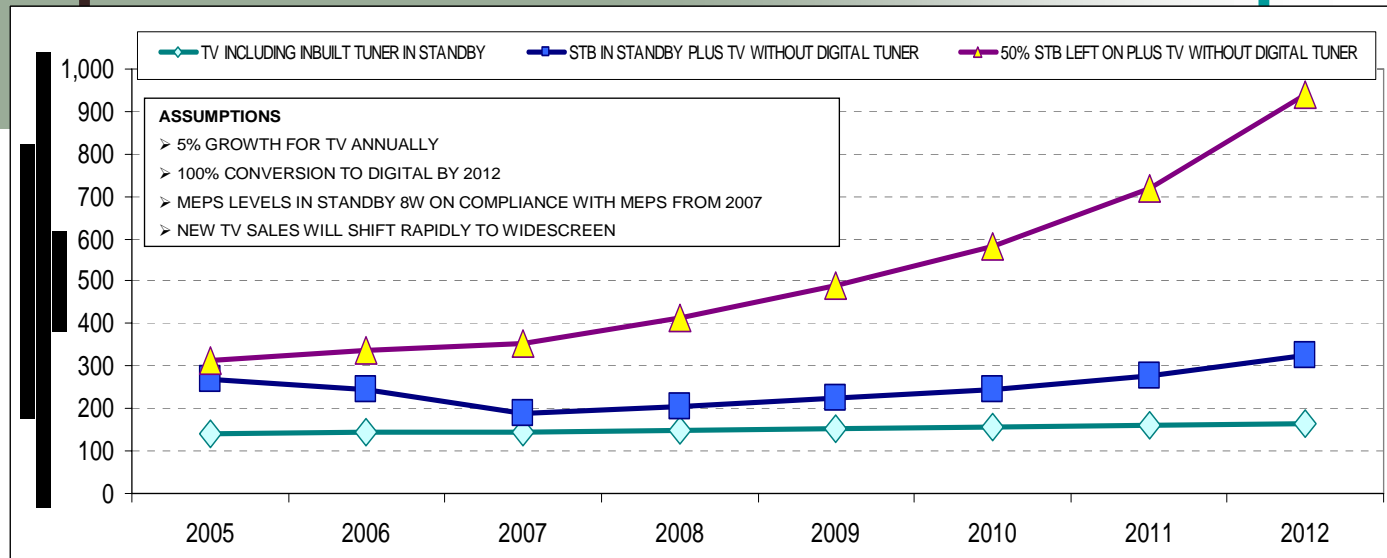
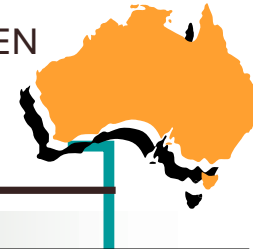
- 2002 Australia Launches 10 year Strategy to deal with Standby Power
- Consumer Electronics Identified as High Priority
- DTV STB Identified as high impact due to FTA DTV Role out in Australia
- Other categories of CE equipment such as TV and Home Entertainment also identified as needing timely attention
- Australia has adopted a regulatory approach for STB MEPS

Set Top Box MEPS

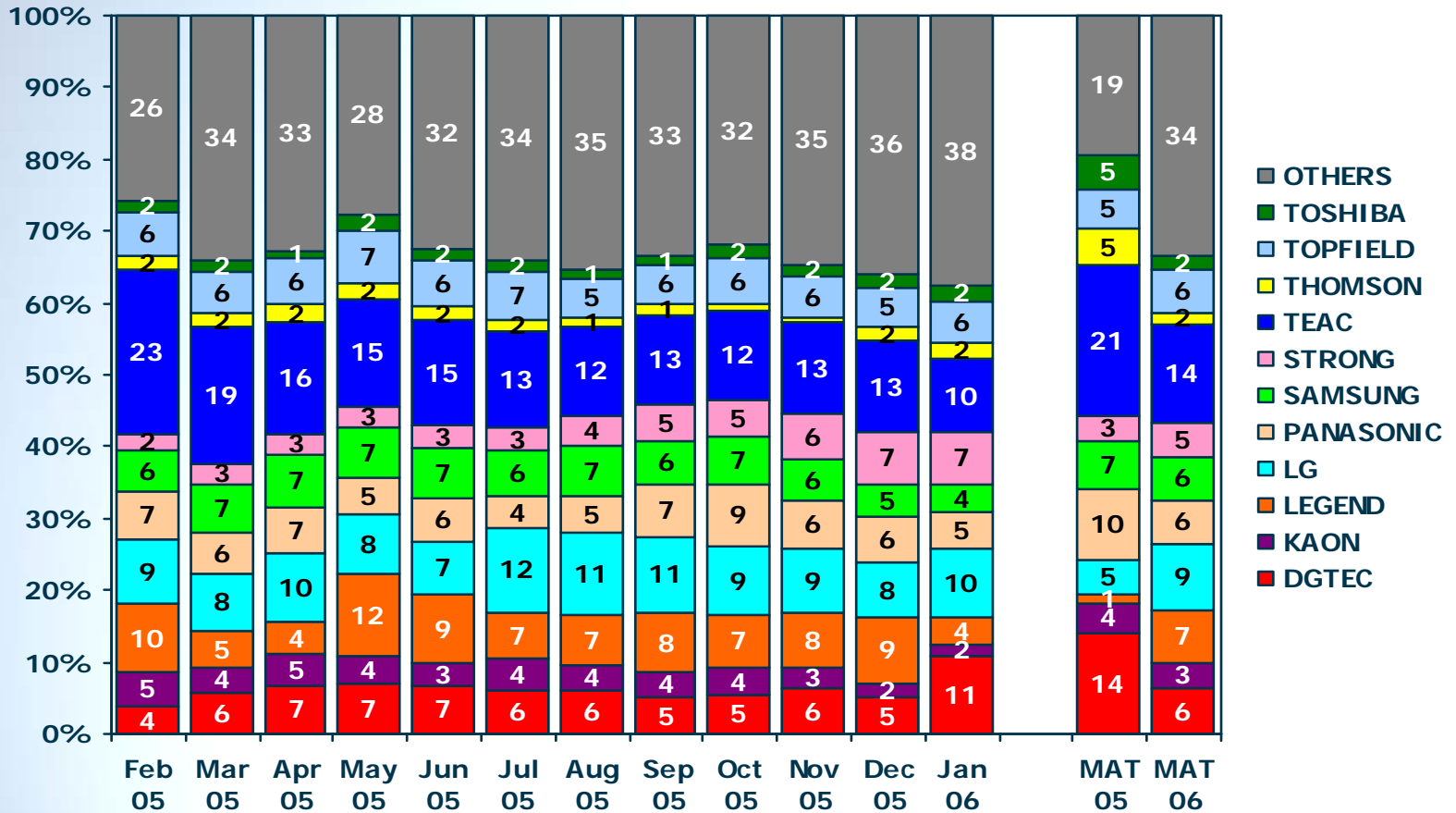
- Energy consumption could be as high as 1000 GigaWatt hours by 2012(likely date for Analog turn off)
- Market structure does not lend itself to a voluntary Framework.
- Suppliers recommend Regulatory framework.
- Standard development commenced early 2005.
- Measurement and MEPS standard finishes Public Comment May 2006.
- MEPS to be applied last quarter 2007.

Projected Energy use of STB in Australia

COMPARISON OF ENERGY CONSUMPTION BETWEEN DTV AND STB FOR AUSTRALIAN DTV CONVERSION



Market Structure of STB sales in Australia



Proposed Levels for STB MEPS

Product Type	Passive Standby – Max Power (W)	Active Standby – Max Power (W)	On mode – Max Power (W)
		MPA/MPL	MPL/MPL
Proposed Compliance Date	1 October 2007		
STB – FTA Either Option 1 or Option 2	1.0W	8W /15W	8W /15W
	2.0W	7W /15W	7W /15W
STB – STV	Not applicable	9W /15W	Not applicable

Product Type	Passive Standby – Max Power (W)	Active Standby – Max Power (W)	On mode – Max Power (W)
		MPA/MPL	MPA/MPL
Proposed Compliance Date	1 October 2007		
STB – FTA Either Option 1 or Option 2	1.0W	12W /19W	15W /22W
	2.0W	11W /19W	14W /22W
STB – STV	Not applicable	13W /19W	Not applicable

Additional Power Allowance by Feature

Feature	Additional power consumption (Active Standby Mode)	Additional power consumption (On Mode: STB – FTA Only)
SCART Port	1.0W	1.0W
IEEE1394 interface	0.8W	0.8W
Ethernet interface 100 Mbit	0.4W	0.4W
Wireless interface	0.7W	0.7W
SPDIF port	0.1W	0.1W
Serial USB interface	0.3W	0.3W
Home automation interface	0.4W	0.4W
Broadband modem	2.0W	2.0W
Extra cable modem	0.7W	Not applicable
Extra LNB	Not applicable	Not applicable
Additional tuner	2.0W	2.0W
Powered remote IR receiver	0.25W	Not applicable

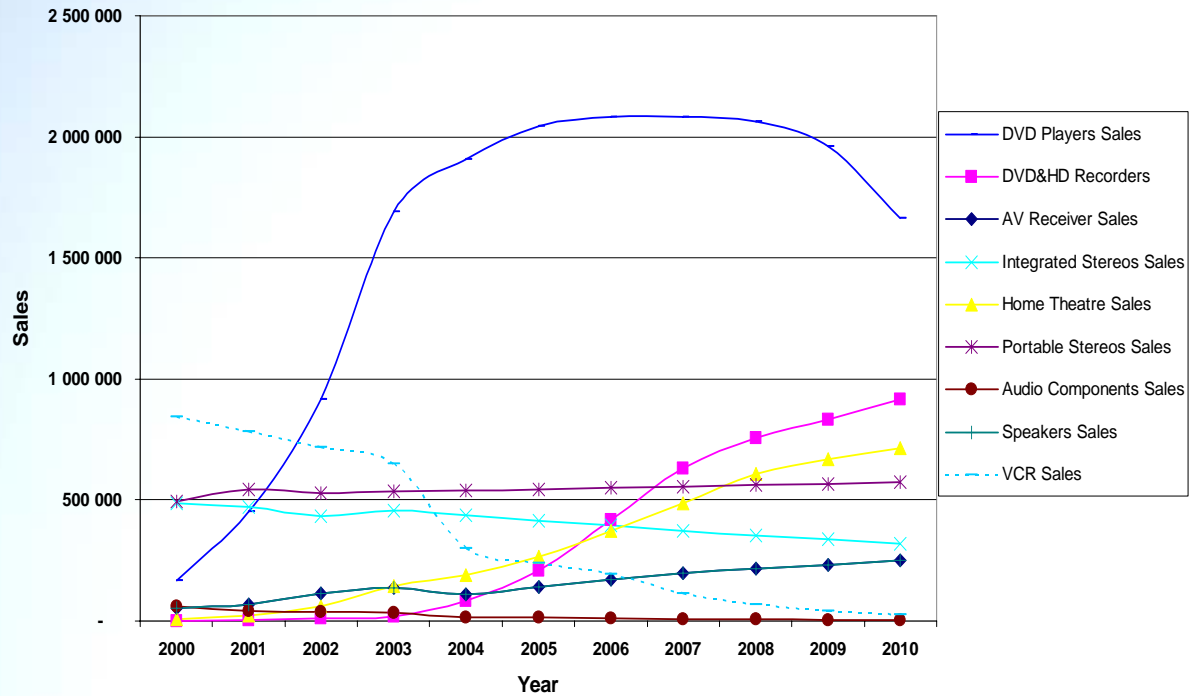
High Efficiency Requirement

- Australian STB MEPS will contain a clause for High Efficiency.
- Method 1 – Auto Shut down after not more than 8 hours of use. Less than 8 hours may be selected. Temporary over ride may also be invoked for recording purposes but the STB must revert to Auto Shut Down after the period of Over Ride.
- Method 2 – Using the HDML CEC commands.

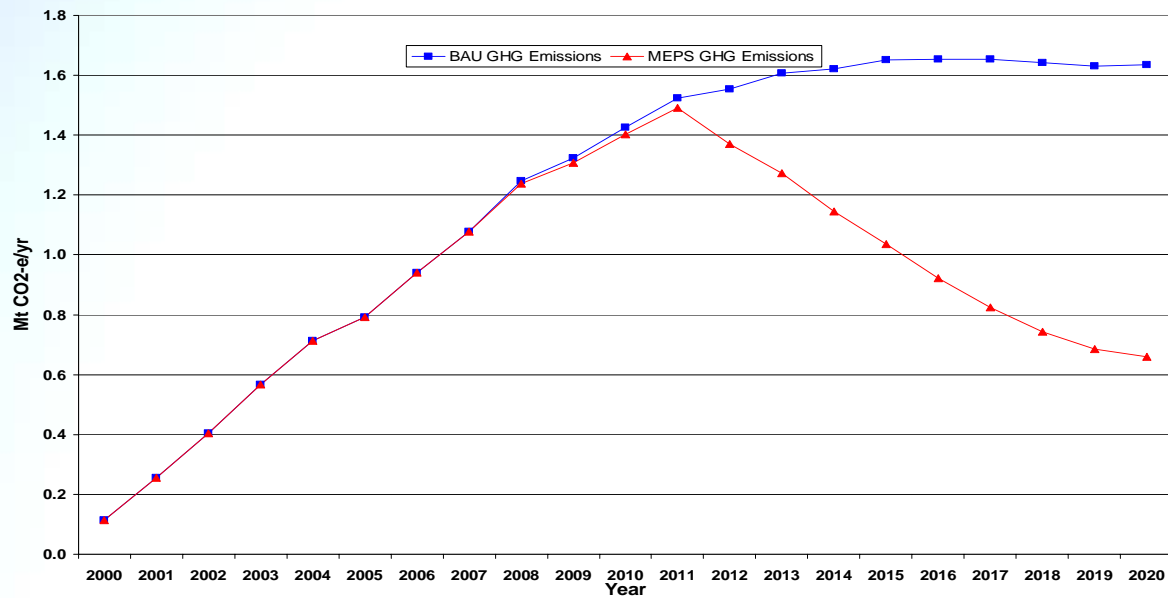
Home Entertainment MEPS – The Need

- Sales Volumes are increasing in 2005 some 4 Million units will be sold in Australia
- MEPS on Home Entertainment Equipment will save as much as 970KT of CO₂ and 1200GW pa of Electricity by 2020.
- Passive Standby power savings will be as high as 800GW pa by 2020

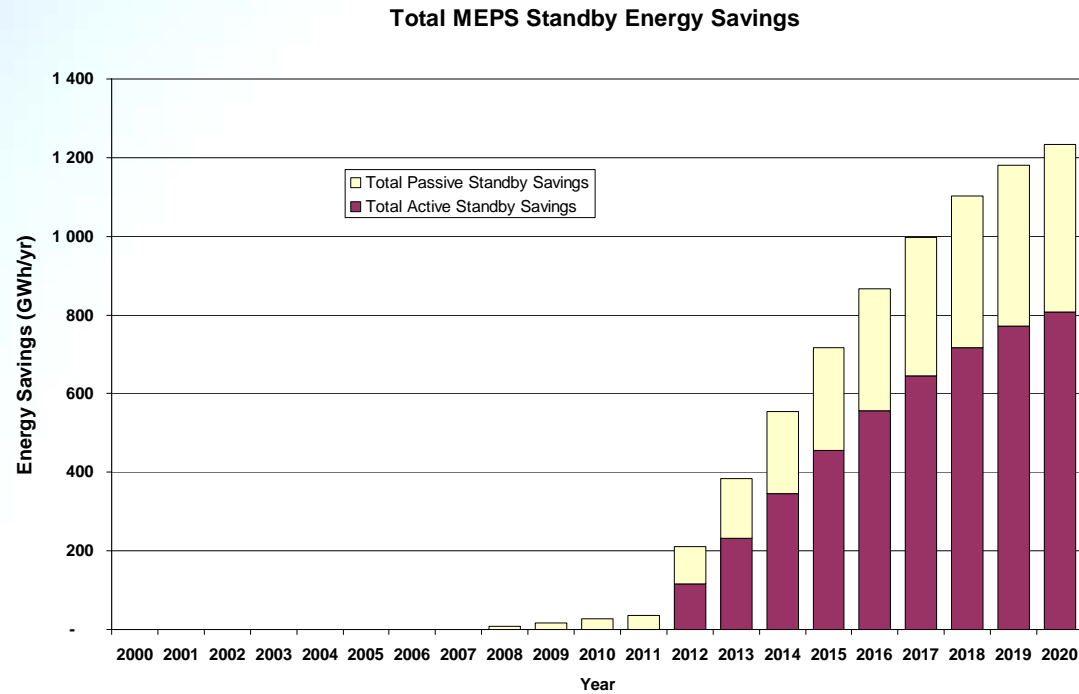
Projected Home Entertainment Equipment Sales



GHG Emissions from Home Entertainment Equipment



Potential Energy Savings by Standby Power Mode



HE Store Survey Measurements

<i>Home Entertainment Product</i>	<i>Mean Active Standby</i>	<i>Mean Passive Standby</i>	<i>Mean Off Mode</i>
AV Receivers	41.2	1.3	0.2
Home Theatre Systems	31.5	2.2	0.1
Integrated Stereos	18.0	4.6	2.4
Portable Stereos	6.7	2.1	1.9
Audio Components	9.0	3.0	0.0
Sub Woofers & Speakers	9.7	4.7	0.6
DVD Players	9.2	2.4	0.0
DVD Recorders	23.0	7.5	NA
Hard Disk Recorders	29.4	7.2	0.0
VCR's	7.7	2.9	NA
Total for all Home Entertainment Products	19.2	3.5	0.5

HE Store Survey Measurement Ranges

<i>Home Entertainment Product</i>	<i>Active Standby</i>		<i>Passive Standby</i>		<i>Off Mode</i>	
	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>	<i>Max</i>	<i>Min</i>
Av Receivers	112.3	11.1	6.4	0.2	0.7	0.0
Home Theatre Systems	55.7	12.1	18.1	0.2	0.9	0.0
Integrated Stereos	52.2	5.1	34.9	0.2	4.8	0.0
Portable Stereos	20.5	2.8	5.1	0.7	3.5	0.0
Audio Components	15.8	4.2	5.6	0.4	0.0	0.0
Sub Woofers & Speakers	20.4	0.5	17.8	0.1	10.2	0.0
DVD Players	21.5	4.4	9.8	0.1	0.0	0.0
DVD Recorders	36.5	15.9	24.4	2.8	NA	NA
Hard Disk Recorders	36.0	20.8	20.1	2.9	0.0	0.0
VCR's	11.3	6.1	6.3	1.2	NA	NA
<i>Total for all Home Entertainment Products</i>	<i>112.7</i>	<i>0.5</i>	<i>34.9</i>	<i>0.1</i>	<i>10.2</i>	<i>0.0</i>

Proposed MEPS

- Applies to *“Commercially available consumer equipment that produces, records or assists in producing an audio or video signal/output”*
- Excludes DTV STB and possibly devices with Digital Tuners – The later is still under consideration.
- Consistent with existing International Programs
- Levels based on surveyed equipment currently available.
- Two Stage implementation
- First Stage 4 W for devices without recording capability 6 W with recording capability by 2008
- Second Stage all devices less that 1W by 2012.

Overview of International Energy Saving Programs

Program Type	Voluntary Programs							Mandatory Programs	
	Energy Star	GEEA	EICTA	HomeSpeed	Nordic Swan	Energy Boy	IEA 1W	CEC	Top Runner
	Label	Label	Agreement	Database	Label	Label	Target	MEPS	Target
AV Receivers	✓	✓	✓	✓		✓	✓		
Home Theatre Systems	✓					✓	✓		
Integrated Stereo	✓	✓	✓	✓	✓	✓	✓	✓	
Portable Stereo	✓	✓	✓	✓		✓	✓		
Stereo Components	✓	✓	✓	✓		✓	✓	✓	
Sub Woofers	✓						✓		
Speakers	✓						✓		
DVD Players	✓	✓	✓	✓	✓	✓	✓	✓	
DVD Recorders	✓	✓	✓	✓	✓		✓	✓	
Hard Disk Recorders			✓				✓	✓	
VCRs	✓	✓	✓	✓	✓	✓			

HE Products Excluded from Stage 1

<i>Product</i>		<i>Passive Standby ≥4W</i>	<i>Passive Standby ≥6W</i>	<i>Off Mode ≥0.3W</i>	
<i>Av Receiver</i>	No of Models	2	-	3	
	% of Models	4%	-	6%	
<i>DVD Player</i>	No of Models	18	-	0	
	% of Models	27%	-	0%	
<i>Home Theatre System</i>	No of Models	8	-	1	
	% of Models	15%	-	2%	
<i>Stereo Component</i>	No of Models	2	-	0	
	% of Models	25%	-	0%	
<i>Integrated Stereo</i>	No of Models	21	-	1	
	% of Models	32%	-	1%	
<i>Portable Stereo</i>	No of Models	2	-	6	
	% of Models	10%	-	14%	
<i>Sub Woofer and Powered Speakers</i>	No of Models	4	-	7	
	% of Models	15%	-	13%	
<i>DVD Recorders</i>	No of Models	-	17	Na1	
	% of Models	-	40%	Na1	
<i>Hard Disk Recorders</i>	No of Models	-	10	0	
	% of Models	-	53%	0%	
<i>VCRs</i>	No of Models	-	1	Na1	
	% of Models	-	4%	Na1	
Total of all Home Entertainment		106	-	33	
Total % of all Home Entertainment		29%	-	7%	