



INTERNATIONAL

**Ecma TC38–TG2
November 2007**

2003: Ecma issued the world's first environmentally conscious design standard (ECMA-341) for the ICT & CE industries

- *Aimed at the designer, provides pragmatic advice on how to reduce the environmental footprint of a product at design stage.*
- *ECMA-341 now adopted by IEC TC108 as IEC 62075*
- *A significant gap for the ICT & CE industry is how to measure the true energy efficient performance of a given product.*

TC38-TG2 formed with a scope of "Energy Efficiency"

- *The initial focus of the Ecma work is at a system level for desktop and notebook (in AC mode) computers.*

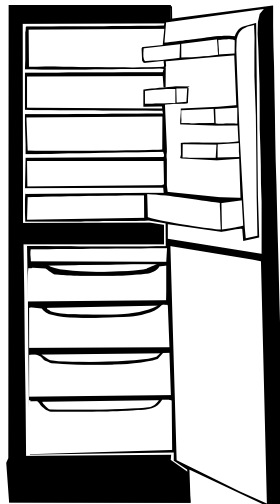
Puts fixed limits on energy consumed in different power states

- *Sleep state*
- *Idle mode*

Is this good for

- *Innovation? Limits technology to do more while in sleep*
- *The environment? Does it really encourage more efficient designs and user behaviour? Fails to account for 2 out of the 3 tenets of energy efficiency.*

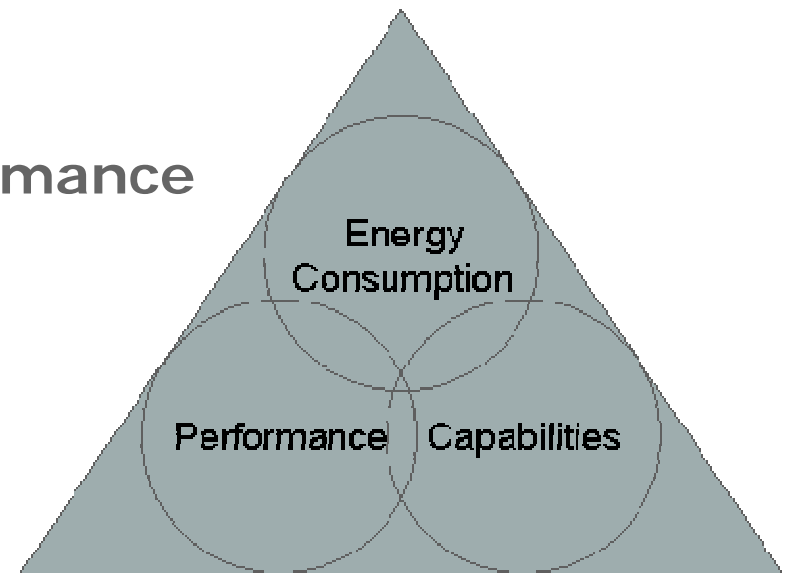
A more holistic approach is required



**Fridge Energy Efficient Performance =
Cubic Capacity**

**Energy used to get it cold + energy use to
sustain temperature over a given time**

Computer Energy Efficient Performance



Performance = How fast it accelerates & how fast it goes.



Energy Efficiency = Litres/Kilometre

Capabilities = How many seats, A/C, electric windows, heated seats etc

The Information Super Highway has no speed limit. Performance is even more relevant

Classifications:



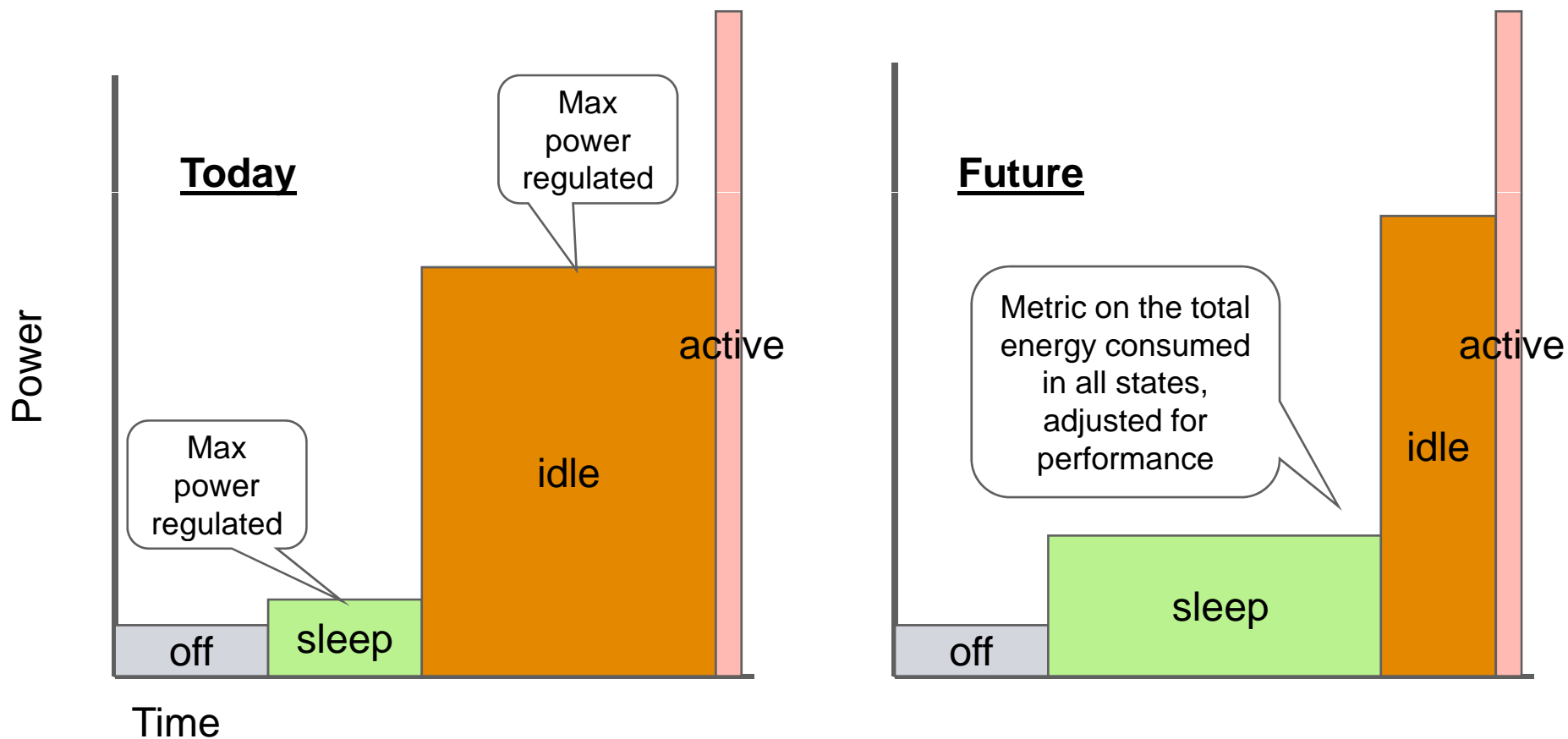
A motorbike and a Smart car are very energy efficient, but not great for sales people (unless selling pizzas!) or a family of six

A 4 X 4 is great for off road, but inefficient for the school run 😭 (informed choice)



Which one is more energy efficient?

Hint: Add up the total area of the graphs



Note: This is simplified conceptual example and represents a sum of activities in each state

Membership

- *Industry: AMD, Apple, Dell, HP, IBM, Intel, Lexmark, Microsoft, NVIDIA, Sony, Toshiba, VIA Technologies, Ricoh, Novell*
- *EU Gov: AEA Technology (UK), EC consultant*
- *EPA Consultants: ECOS, ICF, LBNL, Terra Novum*

Meetings

- *Every two weeks via teleconference*
- *Ad hoc FTF. Last was June 19 / 20 in Washington DC*

Energy Consumption

- *The amount of energy consumed by an UUT measured from the power source over a given period of time and measured in kWh*

Performance

- *The amount of useful work accomplished by the UUT compared to time*

Capabilities

- *Is a feature or set of features that enhances usability and/or experience of a Product*

Duty Cycle

- *The annual time per activity state (active, idle, sleep, off)*

UUT

- *Unit Under Test*

Workload

- *A set of activities performed by the UUT during the active state.*

Productivity workload

- *For office (home or business) applications such as word processing, internet access, accounting etc.*

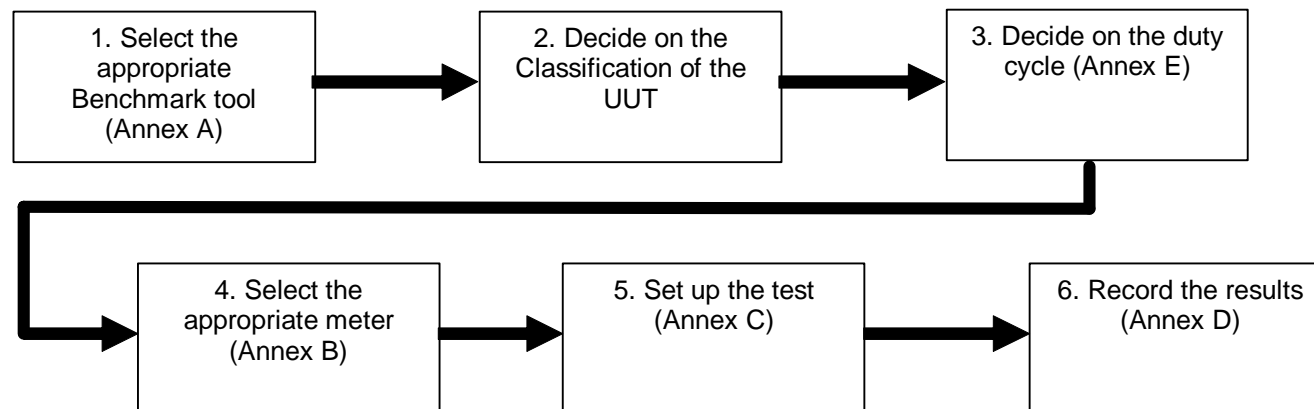
Media Rich workload

- *For entertainment purposes such as listening to music, watching videos, playing games, editing audio, pictures, video etc.*

Three components to the standard

- *UUT workload classification*
- *Compute performance and capability measurements*
- *Energy consumption over a defined workload / duty cycle per classification*

Overview of the Ecma Standard



BAPCo developing EECoMark™

- *Harness completed*
- *First version specifications completed*
- *Alpha version of media rich and productivity workloads expected before end of year*

Milestones

- *Ecma Standard to be submitted for General Assembly approval June 2008.*
- *Full version of Benchmark (Productivity and Media Rich workload, Windows Vista and Mac O/S) due June 2008*
- *Lite version of Benchmark to follow some months later*
 - **Cannot be used to declare compliance with the Ecma Standard**
- *Linux support planned but no schedule yet*

Ecma developing the test methodology

- *Standardises test process and results reporting enables comparison of results*
- *Does not provide pass / fail criteria (e.g. limits)*

Users

- *Energy Star*
- *Possibly for regulatory support? (EuP directive)*
- *Enterprise level purchasing*
- *Note: due to the cost of the meter and benchmark suite, it is not envisaged this methodology would be used by an individual.*