

Can TV monitors and display technology become even more energy efficient?

By Cecilia Bonefeld-Dahl, Director General DIGITALEUROPE

The energy efficiency limits laid out in the draft Energy Label Regulation for displays are so unrealistic that no product being currently manufactured could enter categories A, B and C. In the most optimistic scenario, less than 2% of today's televisions and monitor models would comply with category D. Even though display technology

has achieved energy efficiency improvements of 41.3% since 2011, it is not reasonable to expect that such a decreasing trend can be permanent, nor to consider that an energy efficiency improvement of 7.5% per year is sustainable.

Yet, to address climate change and meet the Paris Agreement

targets, continuous efforts to reduce energy consumption are required. DIGITALEUROPE's members are actively working hard to deliver on this common challenge by proactively minimising the carbon footprint of their products and operations worldwide. Studies assessing the energy consumption of the ICT sector in Sweden and Germany demonstrate

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that energy consumption will be decreasing by 15% at least until 2025.¹

These efforts must be further supported by an adequate regulatory framework, and DIGITALEUROPE insists that any requirement for market access regulations must be realistic. In its current state, the draft Energy Label regulation is a missed opportunity.

The impact of the proposed measures would be disproportionate and even more dramatic for televisions and monitors with the most sophisticated and high-end features. Instead of targeting the least efficient models and making them redundant, it will prevent a large part of innovative and energy-efficient products from being sold in the EU and will, therefore, reduce the variety of products available to European consumers.

If the proposed measures go through, over 90% of displays, evaluated as being energy-efficient today, will be marked with the energy-efficiency labels F and G. The proposed standards would, therefore, mislead consumers and limit the effectiveness of the energy label as a purchase decision-making tool.

There is no evidence that recent technological improvement rates can be upheld in the future. In fact, it is unlikely judging from the currently available technology.

The proposed regulation is based on a false assumption: it presumes that energy performance of displays would improve annually by 7.5% on a linear basis. This incorrect analysis is most likely based on the improvement rates identified during the phase-out of cold-cathode fluorescent (CCFL) lamps, which led to massive energy efficiency gains for the whole sector. However, the phasing out of an old technology does not happen every year, and the technological improvements rate should not be considered constant, nor taken for granted.

In fact, further improvement of display LED backlighting is hardly possible, and new display technologies are yet to mature. It is hence difficult to foresee whether other upgrades could prolong the energy improvement trend.

In addition, the growing consumer demand for displays with high-performance features such as wider screen or connectivity functionalities must also be considered. As numerous

high-performance models would not be able to comply with the proposed limits of the draft regulation, these would only be available for European consumers to a much lesser extent.

Facing reality: The way forward requires taking stock of the realistic improvement rates in energy consumption while remaining open towards technological innovations.

Indeed, had the developments within the last 6 years been linear, an average improvement rate of 6.9% would have been achieved. However, reality is far from being linear, and current energy efficiency standards for displays are very close to the technically achievable limit. Future potential savings are thus very hard to predict as they can only occur when new technologies become available and when the market is ready to adopt them.

It is essential for a regulatory framework to guarantee the freedom to innovate and to enable products to develop and mature as expected in a normal design and production cycle. Regulation must be considered only when these conditions are not met, or if there's been a significant market failure. To lessen the negative

1. Third study regarding the ICT-related energy consumption in Germany with forecasts for the years 2015, 2020 and 2025, Fraunhofer IZM and Borderstep Institut on behalf of the BMWi, 2016.

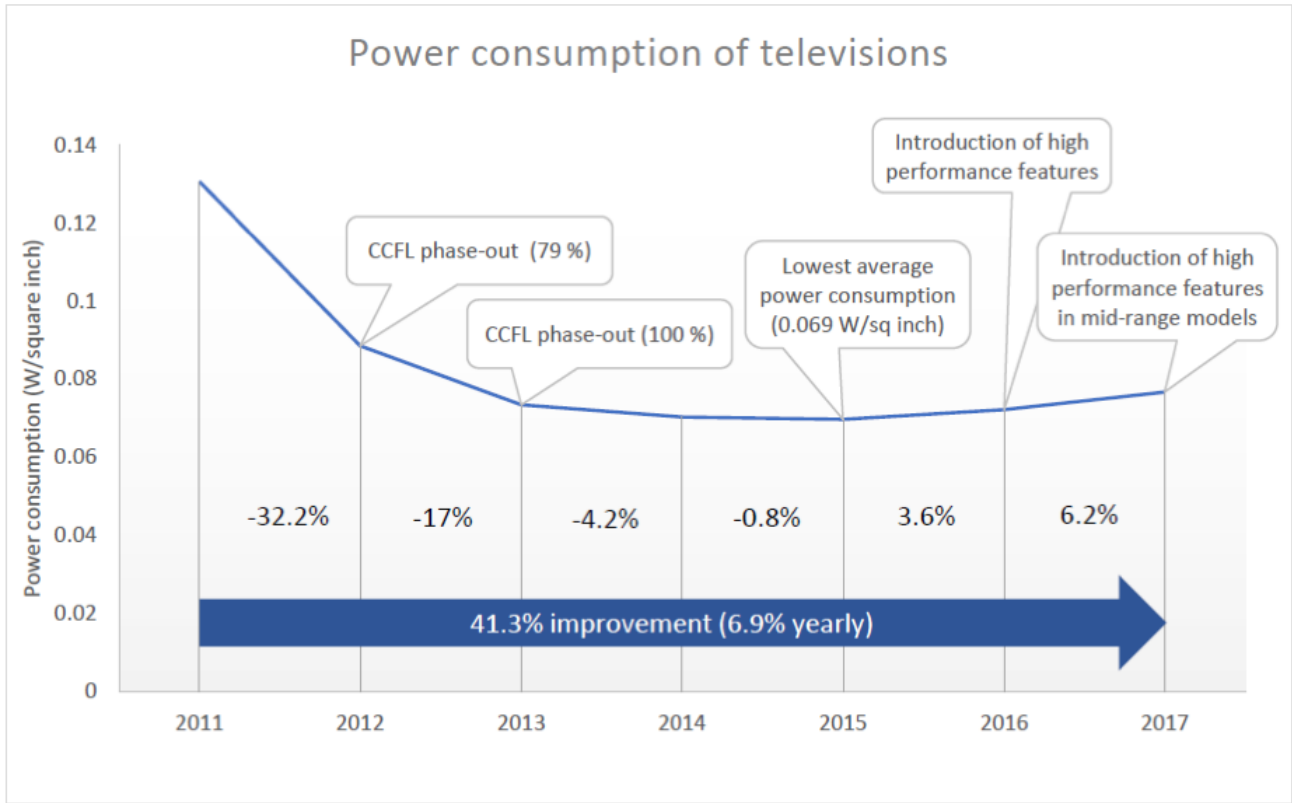


Figure 1: Power consumption of televisions between 2011 and 2017

impact of the proposed requirements on innovation and consumer choice, DIGITALEUROPE calls on policy-makers to be more reasonable in their assessment of their new energy-efficiency targets. In addition to a more appropriate energy labelling

system, we believe that the energy consumption requirements under the eco-design regulation that would apply when a display is switched on should be eased by at least 10%-20% and a set of specific exemptions for products based on new, non-mature

technologies should be provided.

Failing to give this flexibility to manufacturers will deprive European consumers of having a large choice of high-quality models, which in reality are already energy-efficient. ●

2. DIGITALEUROPE, Follow-up position on the proposed energy efficiency requirements in the display regulations (31 August 2017, Brussels)

The assumption of continuous annual improvement rates of 7,5% underlying the draft Energy Label Regulation for displays is unrealistic.

DIGITALEUROPE has analysed its members' television data from 2011 to 2017. **During this time, the total energy improvement of televisions amounted to 41,3%.** As it can be seen in the graph, a significant drop in power consumption took place between 2011 and 2012. This was principally the result of the industry's transition from cold-cathode fluorescent (CCFL) lamps to LED backlights. Consequently, the average power consumption decreased by 32%.

After a full phase-out of CCFL lamps in 2013, power consumption eventually stabilised around half of its original usage. This trend reversed after 2016, with display power consumption slightly increasing as a consequence of the uptake of Ultra-High-Definition technology, and other high-performance features for the benefit of the consumer.

DIGITALEUROPE's concrete proposal for the energy efficiency limits and classes can be found in our position paper dated 31st of August 2017.²