Regulating the Energy Efficiency of Games Consoles

Amanda Webb - Sony Computer Entertainment Europe Ltd. and University of Surrey, UK

The sophistication of games consoles has increased significantly over recent years. Current generation consoles now offer high definition graphics, and 3D gaming is soon to become the norm. Furthermore, the range of functionality now extends beyond gaming to internet browsing, digital television viewing and video downloading amongst numerous others. This increase in functionality and sophistication has been accompanied by an increase in power consumption. As a result, games consoles were identified by the European Union Energy related Products (ErP) Directive as a product with significant potential for energy savings across the product lifecycle.

The European Union completed a preparatory study covering games consoles under the ErP Directive. Within the current generation of consoles, there is a large variation in the standard of graphics offered and the secondary functionality available. Incorporating this intra-product variability in standards for energy consumption and efficiency is extremely complex. Consequently, stakeholders have not yet agreed standards and methods for regulating these use-phase aspects of games consoles. A particular area of contention for industry has been the proposal of power caps across the product category, despite some consoles offering higher definition graphics or advanced functionality. This highlights the lack of attention paid to the efficiency of consoles versus their overall power consumption.

This paper analyses the possible approaches to regulating consoles for energy efficiency including modal power caps, Typical Electricity Consumption (TEC) and mandatory introduction of technologies to improve efficiency. The paper includes a discussion regarding the pros and cons of voluntary and mandatory measures, with a specific focus on games consoles. This draws on the experience of measures already implemented under the ErP Directive. A review of past trends in game console power use and functionality informs future projections of energy use, in order to improve the robustness of any indicators or definitions to technological development in the future. The paper concludes with a recommendation for an approach to standardise console energy efficiency for regulation, with the intention of maximising energy savings whilst continuing to deliver ever more sophisticated gaming to consumers.