

Games Consoles Self-Regulatory Initiative

Update overview of the 2019 Review Proposal

October 22, 2019
Brussels



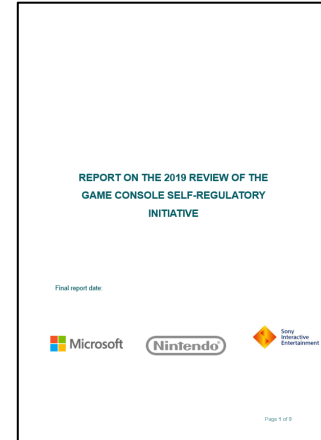
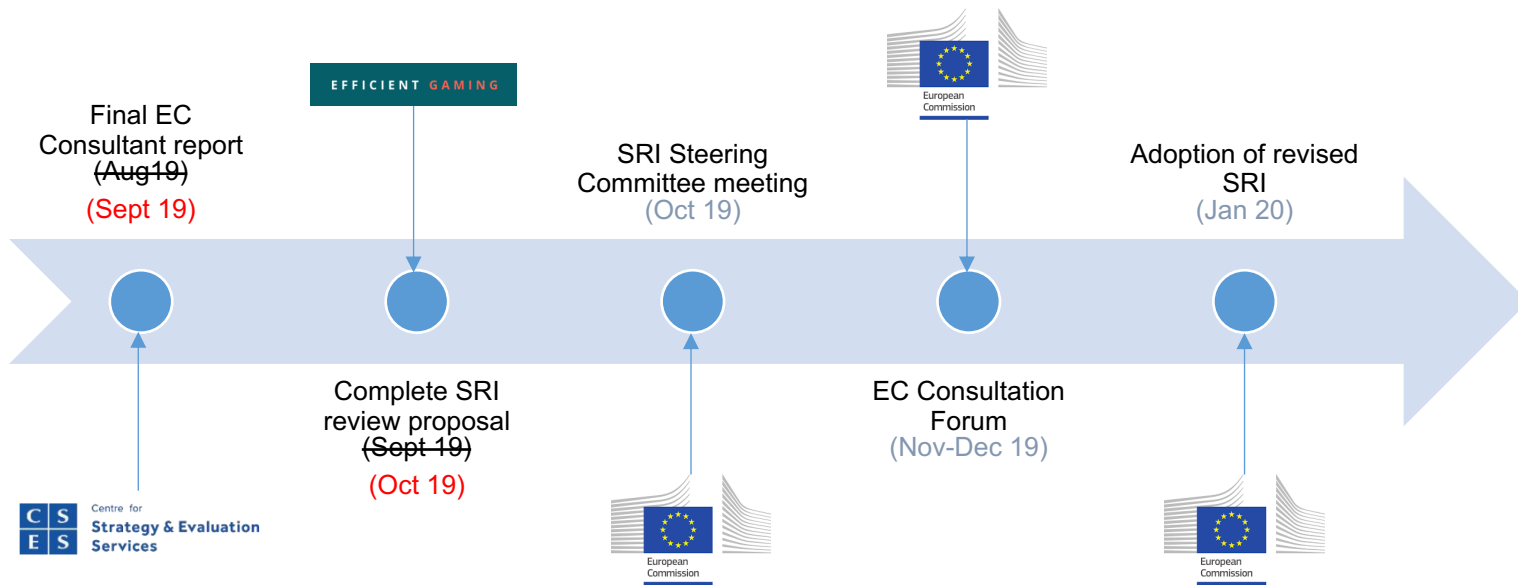
Objectives

- Present updated SRI Review proposals
- Discuss any concerns and input
- Confirm proposals to be presented at the Consultation Forum

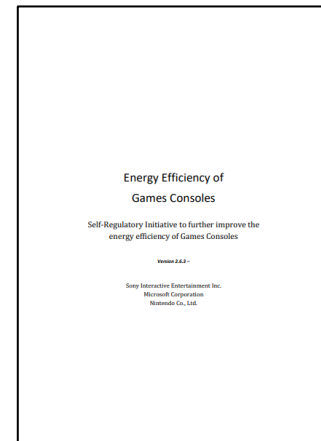
Presentation overview

1. Schedule
2. Updated SRI proposal
3. Issues from the consultant's study

Significant delays to schedule



Draft SRI proposal will be ready 22nd – but too late to circulate



Draft SRI agreement will be ready in November only

2019 SRI Review Report ready after 22nd

SECTIONS	DESCRIPTION
1. Executive Summary	
2. Introduction	Estimated savings = 48 TWh (5 yr lifetime vs 7 yr in consultant's study)
3. Compliance Update	Compliant for 2018: Intertek findings
4. Review of Technology	Die shrink approaching physical limit: next gen is coming: next big shift is cloud gaming
5. Input from Independent Review	Many of the consultant's recommendations will be accepted; many not
6. Energy Efficiency Proposal	Removal of NUI; 5 W reduction for 2K navigation; anti-circumvention
7. Material Efficiency Proposal	Home consoles <20 W included from 2021; plastics removability; reparability statements

PROPOSAL: Circulate after considering Steering Committee inputs on 22nd

There will be a next generation of consoles

TECHNOLOGY	FUTURE TRENDS
Display Resolution	Game rendering and streaming video are progressing from 1080p to 4K and will soon move to 8K. Each step increases the data and computation by a factor of 4. 4K televisions 4K streaming media are now common.
Streaming Data Compression	Video compression technology is improving, reducing data transmission but increasing the need for computing power to decode compressed video streams. H.265 – High Efficiency Video Coding (HVEC) will be replaced by H.266 – Versatile Video Coding (VVC) in 2020.
Virtual Reality	Virtual reality (VR) headsets are becoming more common. VR gaming may reach mass-market acceptance within the next few years.
The End of Moore's Law	Integrated circuits are continuing to move to smaller transistors, allowing more computational ability at lower power. However, this process has been slowing significantly as we are approaching the physical limits of silicon technology.
Cloud Computing	Streaming gaming services will become more common as high-speed broadband proliferates. Virtual servers and dynamic reallocation of computing power may allow fewer servers to handle more concurrent gaming sessions.

There will be a next generation of consoles

WIRED

Exclusive: A Deeper Look at the PlayStation 5

Now that the name is official, we've got more details about Sony's next-gen console—from the haptics-packed controller to UI improvements.



techradar

Xbox Project Scarlett release date, specs and games confirmed for the Xbox Two

By Vic Hood, Gerald Lynch, Henry St Leger 6 days ago Gaming

Microsoft's next generation console is arriving late next year



Official notification

New console category proposed for next gen

Specifications of Sony PlayStation®5 announced so far:

- Third generation of AMD's Ryzen CPU
- Custom unit for 3D audio
- Eight cores 7nm Zen 2 microarchitecture
- Radeon's Navi GPU supporting ray tracing
- Solid State Drive: suspend mode achieved at 0.5 W
- Adaptive triggers and haptic feedback on controllers

Specifications of Microsoft Project Scarlett announced so far:

- Custom-designed AMD processor
- GDDR6 memory
- Next generation Solid State Drive

To be agreed: additional SRI review needed in 2020, new category would be created in this review for new requirements considered in the next review

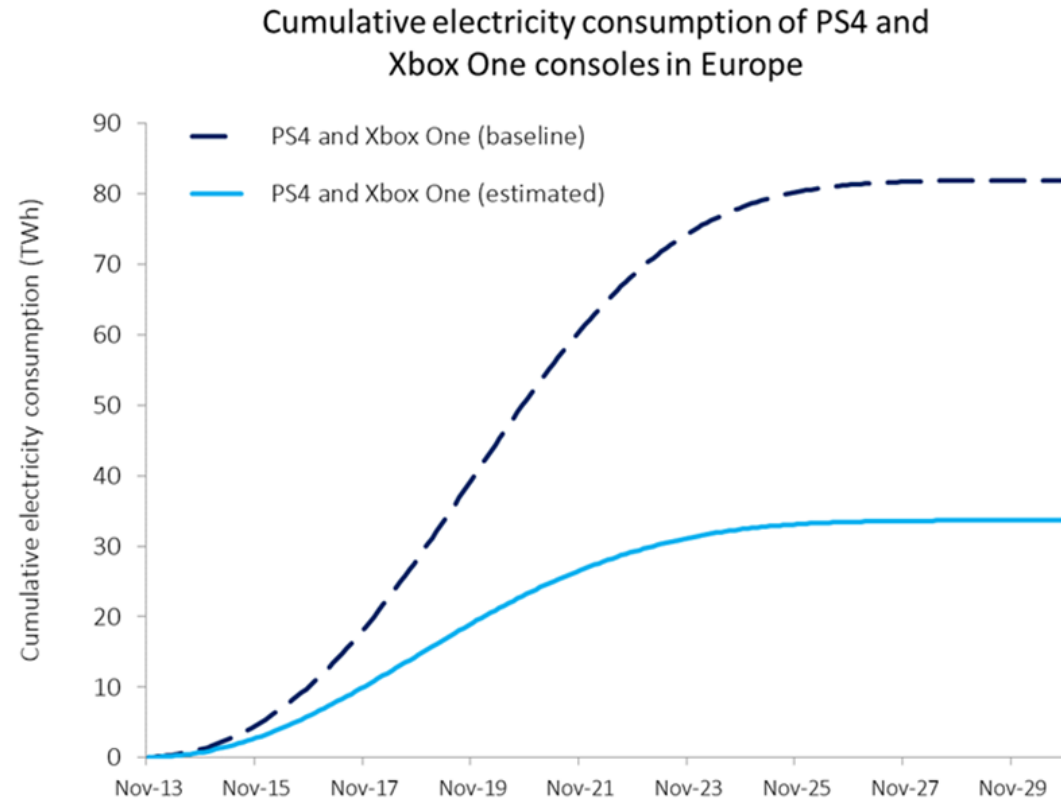
Opportunities for further power savings are limited

Technology	Study reference						Adopted today?	
	AEA (2010)	ECOS (2011)	Hittinger (2012)	Energy Star (2012)	NRDC (2014)	LBNL (2015)		US EPA (2015)
Separate/additional components to run non-gaming applications (separate video architecture)	✓				✓		✓	No
Efficient power supplies	✓						✓	Yes
Power supply output power reduction							✓	Yes
CPUs based on 32nm architecture	✓							Yes
Die shrink (based on predicted trends in efficiency / performance of PCs per transistor)							✓	Yes
System on a Chip architecture	✓							Yes
Power scaling of CPU and GPU		✓					✓	Yes
Processor performance scaling and power management techniques	✓							Yes
Advanced power management technologies to reduce on-idle power to less than 20% of active mode power	✓							Yes
Default Automatic Power Down features	✓		✓	✓			✓	Yes
APD with saving of in-game progression							✓	Yes

Assessment of technology adoption is based upon ultra-high definition capable console models.

Opportunities for further power savings for current consoles are limited.

Cumulative lifetime savings estimated @ 48 TWh



Various material efficiency standards reviewed

Material Efficiency Review	
General method for the assessment of the durability of energy-related products prEN 45552 [Draft]	Voluntary Industry Agreement to improve the energy consumption of Complex Set Top Boxes within the EU V6.0
General method for assessing the ability to remanufacture prEN 45553 [Draft]	Industry Voluntary Agreement to improve the Environmental Performance of imaging Equipment placed on the European Market V5.2.
General methods for the assessment of the ability to repair, reuse and upgrade energy related products prEN 45554 [Draft]	Lot 9 - COMMISSION REGULATION (EU) 2019/424 of 15 March 2019 laying down ecodesign requirements for servers and data storage products pursuant to Directive 2009/125/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 617/2013
General methods for assessing the recyclability and recoverability of energy-related products prEN 45555 [Draft]	Lot 5 - COMMISSION REGULATION (EU) .../... laying down ecodesign requirements for electronic displays pursuant to Directive 2009/125/EC of the European Parliament and of the Council, amending Commission Regulation (EC) No 1275/2008 and repealing Commission Regulation (EC) 642/2009 [Draft]
General method for assessing the proportion of reused components in energy related products prEN 45556 [Draft]	Lot 3 - Preparatory study on the Review of Regulation 617/2013 Computers and Computer Servers Task 7.1 report Presentation of policy measures
General method for assessing the proportion of recycled material content in energy related products prEN 45557 [Draft]	JRC Technical Report 2019 - Analysis and development of a scoring system for repair and upgrade of products
General method to declare the use of critical raw materials in energy-related products prEN 45558	France Roadmap for the Circular Economy (2018): 50 measures for a 100% circular economy
UK 2018: Our Waste, Our Resources: A Strategy for England	Leading the transition [Action plan for circular economy] in Portugal: 2017-2020

Proposed Changes to the SRI – Energy (1/2)

New SRI Energy Efficiency proposals

Remove +20 W allowance for NUI

Clarify basis of navigation power caps after 30 minutes inactivity **(IN LINE WITH CONSULTANT)**

Define separate power caps for 2K & 4K navigation mode (as per media power consumption)

Introduce 65 W cap for 2K navigation and 70 W cap for 4K navigation for 4K capable gaming consoles in 2020 **(IN LINE WITH CONSULTANT)**

Consider definition and power cap for rest modes of next generation consoles in next SRI review (NEW)



Added from consultant's recommendation



Proposal drafted June 2019

Proposed Changes to the SRI – Energy (2/2)

New SRI Energy Efficiency proposals

Include a method to check stability of measurements and where necessary extend test time on a case by case basis

Consider reporting power consumption of any separately enabled ray tracing for next generation in next SRI review (NEW)

No additional requirements for HDR: signatories do not currently provide navigation function or media content in HDR

Set requirements against circumvention (proposed SRI text agreed already)

Explain current caps to account for power variation between models



Added from consultant's recommendation



Proposal drafted June 2019

Issues with Consultant Study – Energy (1/2)

Energy Efficiency already addressed

Include provision to comply with lot 26: we already comply as already explained

Provide easily accessible information on console power use: already available in a link from product manual

Issues with Consultant Study – Energy (2/2)

Energy Efficiency issues not agreed

Adaptative power management: not needed as the activity of the player is sensed directly by the console

Include arcade-style consoles: do not have console operating systems

Use current generation console power as a baseline for next : not in keeping with MEERP method - next gen is higher performing

One step approach for powering consoles off: consoles have sophisticated low power function, no evidence or need for this

Consider 90 W cap for 4K media play: as consultant suggests – variation in components means 110 W cap is needed

Schedule downloads for times of peak renewable generation: the impact would be marginal and there is no SMART grid to allow this

Proposed Changes to the SRI - Materials

New SRI Material Efficiency proposals

Include home consoles consuming <20 W in scope of material efficiency requirements by 2021 (NEW)

Plastic enclosure parts >100g removable using tools commercially available to recyclers **(IN LINE WITH CONSULTANT)**

Allow marking as alternative method to provision of recycling information concerning brominated flame retardants contained in plastic casing used for external enclosures >25g

Mark plastics >25 g and >100 mm² in accordance with ISO 11469: re-insert ISO 11469 reference (NEW)

Draft statements describing reparability of consoles **(IN LINE WITH CONSULTANT)**



Added from consultant's recommendation



Proposal drafted June 2019

Issues with Consultant Study – Materials (1/2)

Materials Efficiency issues already addressed

Ensure batteries are easy to replace: already required under battery directive

Disassembly using common tools: SRI already requires use of commercially available tools

Use common EPS: already covered under Radio Equipment Directive's Common Charger initiative

Phase out hazardous substances: already covered by REACH & RoHS – needs a horizontal approach

Guarantee free system updates: system update are already free, plus this is a commercial matter

Provide separate take-back of consoles: already under WEEE Directive, separate collection is not eco-efficient

Provide information on flame retardant contents: already commit to information on Br flame retardants in SRI

Issues with Consultant Study – Materials (2/2)

Materials Efficiency issues not agreed

Inclusion of handheld consoles: not reviewed within the consultant's study (which is needed under MEERP method)

Keep battery capacity at 90% after 500 charges: there is no evidence battery failure affecting product lifetime

Use >10% post consumer plastic: no recycled high quality PC+ABS can meet flame retardant grade V0 (1.5mm) required by IEC62368

Provide spare parts to all repairers for 7 years: right to repair upheld by out of warranty service, parts are proprietary / encrypted against piracy

Commit to free repair as first option under guarantee: largely this is done already, but not always possible – no evidence of a problem

Provide information on durability of consoles: there are no test methods for lifetime of electronic products, but studies show they are long lasting

Provide information on recycled plastics content: recycling plastics not used as explained above

Conclusions

- Is this an acceptable proposal from the EC perspective?
- What is the Schedule for finalising review report & agreement?
- What is the outline process for new 2020 review?