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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

Accompanying the documents

Commission Regulation

laying down ecodesign requirements for smartphones, mobile phones other than smartphones, cordless phones and slate tablets pursuant to Directive 2009/125/EC of the European Parliament and of the Council and amending Commission Regulation (EU) 2023/826

and

Commission Delegated Regulation

supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to the energy labelling of smartphones and slate tablets

{C(2023) 1672 final} - {C(2023) 3538 final} - {SEC(2023) 164 final} -
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Annex 11: Comparison of the options

Option 3

Effectiveness in achieving the specific objectives: The effectiveness of the sub-option 3.1 is high as it directly targets the problems and specific objectives. Though it is a bit early to assess the impacts of the French implementation of the reparability index, it is gaining attention and a recent survey shows its good uptake by consumers[1]. Therefore, assuming a similar consideration by the citizens across EU, the sub-option 3.3 is expected to be quite effective.

Efficiency: The first sub-option 3.1 will be quite efficient though varies across 3.2 (3.2a and 3.2b) and 3.3. Sub-option 3.2a is less demanding in terms of ecodesign requirements, so expected benefits are lower compared to sub-option 3.2b. However, its cost is similar what results in less efficiency. For 3.2b higher environmental benefits but at higher costs as well thus less efficient, compared to 3.3. Also, the efficiency of 3.2 depends on how the market of cordless and feature phones evolve (expected to be declining). For some sectors, such as repair, refurbishment etc. the economic impacts will be positive in the case of 3.3 as the measures will result in growth of these markets.

Coherence: Sub-option 3.3 sets minimum requirements (circularity aspects) on products placed on the market and will be coherent with existing waste, product and resource policies and circular economy.

Option 4

Effectiveness in achieving the specific objectives: This option focuses only on the energy labelling thus its effectiveness will be limited to the specific objective on energy label requirements. Also, it is applicable to smartphones and tablets only. However, success of existing energy label in changing consumer behaviour could add to its effectiveness. Also, including durability/reparability information on the energy label could improve its effectiveness further.

Efficiency: This option has the lowest economic impact, but it also has limited social and environmental benefits, which will result into not very high efficiency.

Coherence: It will be coherence with energy related policies and not sufficient direct link with resource and waste policies.

Option 5

Effectiveness in achieving the specific objectives: although sub-option 5.1 already brings good results in terms of effectiveness, those related to sub-option 5.2 are even greater given the fact that it will bring an integrated approach, ecodesign, energy labelling and circular

[1] https://news.samsung.com/fr/sondage-indice-reparabilite

economy requirements. It would be effective in principle as it covers all fundamental principles of sustainability and circularity.

Efficiency: The efficiency of sub-option 5.2 will be similar to sub-option 3.3 (probably a little higher).

Coherence: Same as option 3.

Table 1 Summary of Benefit assessment (yearly figures for 2030), all devices

Description								***Comments***
	Option 3.1	***Option 3.2a***	***Option 3.2b***	***Option 3.3***	***Option 4***	***Option 5.1***	***Option 5.2***	
Direct benefits								
New SMEs in repair/maintenance sector (nº firms)	+++	+++	+++	+++	+	+++	+++	Business. This refers how SMEs will evolve as consequence of new repairers but also by the growth of existing firms
Promoting investment in the production of more energy efficient devices	++	++	++	+++	++	++	+++	Business. In overall, more requirements (Ecodesign, energy and/or reparability) will imply more investment
Reduced GEI emissions (Mn tCO2 eq.)	-3	-3	-3	-3	-1	-3	-4	Society
Reduced acidification (kt SO2 eq.)	-22	-22	-23	-23	-4	-23	-24	Society
Reduced energy consumption (PJ)	-44	-43	-47	-48	-13	-48	-49	Consumer
Employment creation in repair/maintenance sector (nº jobs)	+3,000	+3,040	+3,000	+3,200	+300	3,000	+ 3,200	Society
Reduced total annual consumer expenditure (Mn €)	-19,260	-19,500	-19,300	-20,000	-2,800	-19,300	-20,600	Consumer. Lower cost due to the extended lifetime and energy consumption reduction

Description								*Comments*
	Option 3.1	*Option 3.2a*	*Option 3.2b*	*Option 3.3*	*Option 4*	*Option 5.1*	*Option 5.2*	
Reduced societal external annual damages (Mn €)	-980	-850	-1,020	-1,040	-150	-1,040	-1,080	Society
Contribute to circular economy Material use reduction (less tons in comparison with Option 1)	-36,000	-35,300	-39,100	Material reduction is expected (decrease of more than 39,1000 tons of materials). In addition, it can promote the reuse of goods by providing more certainty regarding the remaining lifespan after first use.	-1,600	-40,300	Material reduction is expected (decrease of more than 40,300 tons of materials). In addition, it can promote the reuse of goods by providing more certainty regarding the remaining lifespan after first use.	Society
Indirect benefits								
Ensure user's health, compatibility across other devices and workers safety during production process	++		++	++	+	++	++	Society This is related to the benefit of reduce material consumption under different options, since consumers and workers will be exposed to lower dangerous or toxic substances. Also, common requirements will assure compatibility among different devices.

Description								***Comments***
	Option 3.1	***Option 3.2a***	***Option 3.2b***	***Option 3.3***	***Option 4***	***Option 5.1***	***Option 5.2***	
Positive impact on the deployment and the diffusion of innovation	++		++	(+++) Promotion of repair skills among users	+	++	(+++) Promotion of repair skills among users	Business. How innovations to achieve new requirements, will be promoted through the supply chain.

(1) Estimates are relative to the baseline for the policy option as a whole; (2) Please indicate which stakeholder group is the main recipient of the benefit in the comment section;(3) For reductions in regulatory costs, please describe details as to how the saving arises (e.g. reductions in compliance costs, administrative costs, regulatory charges, enforcement costs, etc.; see section 6 of the attached guidance).

Table 2 Summary of Cost assessment

Costs (all devices)							
Option 3.1		**Citizens/Consumers**		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Higher compliance cost	Direct costs			(++) Increase in costs due to establish production and supply change to fulfil minimum requirements, testing equipment, etc.	(++) Increase regarding new personnel, develop after-sales, maintenance activities, etc.	(++) Increase in costs due to set up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(++) Increase due to monitor compliance with the requirements (MS)
	Indirect costs			(++) Increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(++) Slight increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.		(++)
Reduces business revenue (Mn €)					Business revenue will reduce annually up to –19,400 in 2030		
Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will increase annually up to +350 in 2030				
Acquisition price (€/unit)		(+) Increase due to higher costs as consequence of incorporating					

		new requirements					
Costs (all devices)							
Option 3.2a		**Citizens/Consumers**		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Higher compliance cost	Direct costs			(++) Increase in costs due to establish production and supply change to fulfil minimum requirements, testing equipment, etc.	(++) Increase regarding new personnel, develop after-sales, maintenance activities, etc.	(++) Increase in costs due to set up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(++) Increase due to monitor compliance with the requirements (MS)
	Indirect costs			(++) Increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(++) Slight increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.		(++)
Reduces business revenue (Mn €)					Business revenue will reduce annually up to –19,800 in 2030		
Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will increase annually up to +500 in 2030				
Acquisition price (€/unit)		(+) Increase due to higher costs as					

		consequence of incorporating new requirements					

Costs (all devices)							
Option 3.2b		**Citizens/Consumers**		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Higher compliance cost	Direct costs			(++) Increase in costs due to establish production and supply change to fulfil minimum requirements, testing equipment, etc.	(++) Increase regarding new personnel, develop after-sales, maintenance activities, etc.	(++) Increase in costs due to set up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(++) Increase due to monitor compliance with the requirements (MS)
	Indirect costs			(++) Increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(++) Increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.		(++)
Reduces business revenue (Mn €)					Business revenue will reduce annually up to –19,500 in 2030		
Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will increase				

			annually up to +440 in 2030				
Acquisition price (€/unit)		(+) Increase due to higher costs as consequence of incorporating new requirements					

Costs (all devices)							
Option 3.3		**Citizens/Consumers**		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Higher compliance cost	Direct costs			(+++) Significant increase in costs due to establish production and supply change to fulfil minimum requirements, testing equipment, etc.	(+++) Significant increase regarding new personnel, develop after-sales, maintenance activities, etc.	(+++) Significant increase in costs due to set up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(+++) Significant increase due to monitor compliance with the requirements (MS)
	Indirect costs			(+++) Significant increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(+++) Significant increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.		
Reduces business revenue (Mn €)					Business revenue will reduce annually up to –20,500 in 2030		

Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will increase annually up to +610 in 2030				
Acquisition price (€/unit)		(+) Increase due to higher costs as consequence of incorporating new requirements					

Costs (all devices)							
Option 4		**Citizens/Consumers**		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Higher compliance cost	Direct costs			(+) Slight increase in costs due to establish production and supply change to fulfil minimum requirements, testing equipment, etc.	(+) Slight increase regarding new personnel, develop after-sales, maintenance activities, etc.	(+) Slight increase in costs due to set up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(+) Slight increase due to monitor compliance with the requirements (MS)
	Indirect costs			(+) Slight increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(+) Slight increased cost of products due to higher costs of minimum requirement obligations		(+)

Reduces business revenue (Mn €)					Business revenue will reduce annually up to –2,400 in 2030		
Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will decrease annually up to –170 in 2030				
Acquisition price (€/unit)		No changes (a minor increase for tablets)					

Costs (all devices)							
Option 5.1		**Citizens/Consumers**		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Higher compliance cost	Direct costs			(+++) Significant increase in costs due to establish production and supply change to fulfil minimum requirements, testing equipment, etc.	(+++) Significant increase regarding new personnel, develop after-sales, maintenance activities, etc.	(+++) Significant increase in costs due to set up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(+++) Significant increase due to monitor compliance with the requirements (MS)

	Indirect cost			(+++) Significant increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(+++) Significant increase in up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.		
Reduces business revenue (Mn €)					Business revenue will reduce annually up to –19,500 in 2030		
Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will increase annually up to +440 in 2030				
Acquisition price (€/unit)		(+) Increase due to higher costs as consequence of incorporating new requirements					

Costs (all devices)						
Option 5.2	**Citizens/Consumers**		**Businesses**		**Administrations**	
	One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**

Higher compliance cost	Direct costs			(+++) Higher costs. Production and supply chain changes, equipment testing, and capital expenditure for adaption (manufacturing processes, logistics)	(+++) Higher costs. New personnel with Ecodesign competencies, to carry testing and verification, after-sales, maintenance activities, etc.	(+++) Higher costs. Setting up the enforcement process, government expenditure for conformity review, establishing minimum requirements	(+++) Higher costs. Monitoring compliance with the requirements
	Indirect cost			(+++) Higher up-front cost of products due inter alia to more accurate assembly, better qualified manufacturing work force, etc.	(+++) Increased cost of products due to higher costs of minimum requirement obligations		
Reduces business revenue (Mn €)					Business revenue will reduce annually up to –21,000 in 2030		
Reduces SMEs in manufacture and retail sector (Nº firms)					(-) Negatively affected because of lower sales, although other factors must be considered		
Higher repair costs (Mn €)			Repair costs will increase annually up to +680 in 2030				
Acquisition price (€/unit)		(+) Increase due to higher costs as consequence of					

		incorporating new requirements					

(1) Estimates to be provided with respect to the baseline; (2) costs are provided for each identifiable action/obligation of the policy option; (3) If relevant and available, please present information on costs according to the standard typology of costs (compliance costs, regulatory charges, hassle costs, administrative costs, enforcement costs, indirect costs; see section 6 of the BRG).

Table 3 Summary of coherence assessment

	Option 3 (3.1, 3.2a, 3.2b and 3.3)	*Option 4*	*Option 5 (5.1 and 5.2)*
External coherence	++	++	++

Overall comparison

Overall comparison	**Policy option 1 (baseline)**	**Policy option 3.1**	**Policy option 3.2a**	**Policy option 3.2b**	**Policy option 3.3**	**Policy option 4**	**Policy option 5.1**	**Policy option 5.2**
Effectiveness	0	++	++	++	++	++	++	+++
Environmental Impacts	0	++	++	++	+++	++	++	+++
Economic Impacts	0	--	--	--	--	-	--	--
Social Impacts		+	+	+	++	+	++	+++

Annex 12: The SME Test – Summary of results

(1) Preliminary assessment of businesses likely to be affected	
In terms of market share, SMEs are certainly not the main player in the mobile phones and tablets OEM sector. However, when it comes to the analysis of the full life cycle stage of mobile phones and tablets, it is noteworthy that there are European SMEs – in the order of some thousands - working on services or activities related to these products (product assembly, repair and maintenance).	(See section 2 [*Problem definition*] as well as Annex 5)
(2) Consultation with SMEs representatives	
All categories of stakeholders identified in the stakeholder mapping, among which SMEs, participated in various consultation activities. SMEs (in the field or repair and maintenance services) actively participated throughout the preparatory process and meetings, in particular the Consultation Forum meeting. With reference to the latter, there was a general consensus in proceeding with the analysis and formulation of Ecodesign and Energy Labelling requirements. On top of this, SMEs mainly working in the field of repair, refurbishment and recycling judged as very relevant (a game changer, in some cases) the proposed material efficiency requirements on durability, reparability, upgradability, maintenance, reuse and recycling.	(See section 5 [*What are the available policy options?*], as well as Annex 2)

(3) Measurement of the impact on SMEs	
SMEs belonging to the repair and maintenance sector are expected to strongly benefit from the initiatives, in particular thanks to the proposed Ecodesign requirements on reparability and ease of disassembly. Not only will new repairers appear in the sector, but also existing ones will grow. To a minor extent, workers of recycling plants would benefit from the proposed Ecodesign information requirements on the manufacturing phase of certain components (as described in Annex 9), as the use of toxic materials use would be reduced. SMEs in the retail sector could be negatively affected because of the expected sales reduction under all considered options. However, it is difficult to establish the retail path with accuracy, because of many factors that can be considered and not all of them affect in the same way (for example, retailers can shift their supply to other devices with a better future projection, in term of sales).	(See section 6 [*What are the impacts of the policy options?*] as well as Annex 10)

4) Assess alternative options and mitigating measures	
Given that SMEs, in particular those belonging to the repair and maintenance sector, are expected to strongly benefit from the initiatives, there has been no need to assess alternative options and/or mitigating measures. The detailed feedback from SMEs (as well as from other stakeholders) was helpful for the 'fine tuning' of the formulation of the proposed Ecodesign requirements.	(See Annex 9)

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