

# Review study of the existing ecodesign and energy labelling measures for household tumble driers covered under Commission Regulation (EU) No 932/2012 and Commission Delegated Regulation (EU) No 392/2012

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1	3	130-131	Larger capacities	<p>We welcome the reflection on the trend towards increasingly larger capacities and it being identified as a major drawback to the impact of the Ecodesign and Energy Labelling Regulations. This is indeed a problem that has also been identified in other product categories and which undermines the energy savings linked to the Ecodesign and Energy Label measures.</p> <p>We think the study team’s suggestion to base the standard energy consumption (SEc) on the “best fit” line for heat pump tumble driers is a step in the right direction, as this effectively makes the energy efficiency index (EEI) slightly less dependent on the rated capacity of the products. This is however not enough to address the issue of growing capacities of tumble driers, which is happening despite household size steadily decreasing in all EU countries<sup>1</sup>, and which might be neglecting some of the savings associated to increased efficiency.</p> <p>In the case of washing machines, larger capacities issue has eaten up a large part of the expected energy and water savings, and the current EEI formula is one of the causes of this unfortunate situation. A study<sup>2</sup> by Coolproducts campaign and an analysis by Topten Europe have shown that currently good efficiency levels are mainly reached by</p>	<p>We suggest the study team looks into these design/policy options:</p> <ul style="list-style-type: none"> <li>● We invite the study team to draw inspiration from the new provisions discussed in the washing machines, fridges and displays files in 2018. For washing machines for example, it was discussed having a quarter, half and full load test to avoid machines getting bigger. This can improve the consumption adaptation to small loads for the label programmes. Small loads (such as only white underwear) are a reality in washing machines and tumble driers and the consumer’s average load does not change in function to the size of the tumble drier they own.</li> <li>● Introducing a digressive/asymptotic SEc formula, which would provide virtually no additional benefit for larger capacity tumble driers beyond a certain capacity.</li> <li>● Options to encourage tumble driers to be used as close to full capacity as possible. Indeed, aiming at a better adaptation to underloading as suggested by the study team will not be enough to stop the trend to larger machines, because there is no guarantee that the adaptation will happen for loads and programmes others than those required for testing by the regulation.</li> </ul>	

<sup>1</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Average\\_household\\_size,\\_2007\\_and\\_2017\\_\(average\\_number\\_of\\_persons\\_in\\_private\\_households\)\\_new.png](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Average_household_size,_2007_and_2017_(average_number_of_persons_in_private_households)_new.png)

<sup>2</sup> <https://www.coolproducts.eu/policy/white-goods-spin>

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				adding capacity and not reducing energy consumption <sup>3</sup> . This is because the capacity is often more significant for determining a machine's energy efficiency class than the energy consumption. We believe that the capacity of tumble driers should be in line with the capacity of the washing machines (or it should be even smaller). Therefore, the EEI formula should not favour tumble driers which are bigger than washing machines.		
2	3	156	Tolerance	Art. 7 of the regulation indicates "assessing verification tolerances set out in the regulations" as one of the objectives of the review, while the study concludes that there is no reason to increase the verification tolerances although no result for the EU RRT performed by APPLiA has been presented yet.	Assuming that the quality of test methods improves, we invite the study team to also assess the option of decreasing the tolerances.	
3	5	178	Base Cases	BC1 (condenser tumble driers) includes both heating element and heat pump tumble driers. In order to better analyse design and policy options, it might be better to split this base case into two.	Split BC1 into two separate base cases and adapt the subsequent analysis accordingly.	
4	6 - 7	196	Table 52	At the second stakeholder meeting on 4/12/2018 stakeholders found design Option 9 "Decreased specific electricity consumption and increased average load by displaying the actual load with weight sensors (i.e. consumer feedback systems)" not adequate based on the following reasoning: <ul style="list-style-type: none"> <li>• Load of the drier depends almost exclusively on load of the washing machine</li> <li>• Weight of wet clothes will depend on the moisture content of clothes, and therefore any displayed load might be misleading i.e. because optimised drying efficiency would also consider the function of the spin cycle of washing machine used. Hence, it makes no sense to have sensors on tumble driers, but they should rather be a requirement for washing machines and washer-driers.</li> </ul>	<ul style="list-style-type: none"> <li>• Remove design option 9 in table 52 and elsewhere in Task 6.</li> <li>• Remove policy options PO1b and PO2b in Task 7.</li> </ul>	
5	7	233-234	Relevance of current regulations	The report mentions: "The objectives regarding energy savings and increased energy efficiency are in line with European policies such as the 2030 Climate and Energy Policy Framework, that sets targets for greenhouse gas emissions and improvement of energy efficiency at European level for the year 2030 (at least 40% cuts in greenhouse gas emissions, and at least 27% improvement in energy efficiency)"	Revise the text to reflect the new energy efficiency objectives. <b>More importantly, the analysis of design and policy options needs to take into consideration the considerably increased energy efficiency target, by suggesting more ambitious Ecodesign/Energy labelling measures for Tumble driers. For example by introducing</b>	

<sup>3</sup> Anette Michel, Sophie Attali, Eric Bush. Topten 2016. [Energy efficiency of White Goods in Europe: monitoring the market with sales data](#) – Final report. ADEME, 72 pages.

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				Note that the energy efficiency objective has recently been updated to 32.5% by 2030 (see <a href="#">here</a> ).	<b>new Ecodesign requirements to enter into force in 2021.</b>	
6	7	235	Relevance of current regulations	The report states: <i>“The ecodesign regulation is probably less relevant to the citizens, but that is linked to the nature of ecodesign regulations in general.”</i> The Ecodesign regulation might be less “visible”, but not less “relevant” in our opinion.	Delete the sentence, or alternatively include the following: <i>“The Ecodesign regulation provides consumers better performing products and saves them money by ensuring that products that are too costly to run are not allowed in the EU. It also requires for relevant information (e.g. programme time and energy consumption of the most common programmes; energy consumption in off-mode and left-on modes) to be included in the instruction booklet for users.”</i>	
7	7	236	Stakeholders consultation	<i>“A first stakeholders meeting was held on the 26th of June where representatives from Member States, testing facilities, consumer organisations and manufacturers provided input to the first four tasks”</i>	Correct accordingly: <i>“A first stakeholders meeting was held on the 26th of June where representatives from Member States, testing facilities, consumer and <b>environmental organisations</b> and manufacturers provided input to the first four tasks”.</i>	
8	7	240-241	EEl Formula	The Energy Efficiency Index is described as:  $EEI = Etc/SEc$  Which means that a “standard” tumble drier would have an EEI of 1.	Correct: $EEI = Etc/SEc *100$	
9		242		‘Delay start’ mode has not been included.	The “delay start” mode has not been included in the report and hence, proper justification for this should be provided or the definition and proposed requirements for that mode should be included.	
10	7	244-245	Policy Option 2a	The study team mentions as a barrier that <i>“Removing all heating elements driers from the market might reduce the total sales and thus industry turnover, as the average price per product would increase.”</i> The experience from previous Ecodesign and Energy Labelling measures from tumble driers, which the study team very well describes in the earlier parts of chapter 7, shows that the fact of selling more expensive products more than compensates any loss in revenues from lower sales.	Rewrite the sentence: <i>“Removing all heating elements driers from the market might reduce the total sales of products. However previous experience shows that any lost revenues would likely be compensated by the increase in the average price per product”</i>	
11	7	244-246		There is discrepancy between the suggested dates of entry into force of Ecodesign and Energy Labelling requirements. There is also discrepancy between the resource efficiency options under Ecodesign (PO3 and PO4) and the energy requirements.	Assess a policy option where all requirements (energy labelling and resource and energy requirements for Ecodesign) enter into force in 2021 - also aligning with the entry into force of other white goods revised measures in 2021.	

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				We do not think there are reasons for delaying the entry into force of Ecodesign requirements on energy efficiency to 2023, particularly in view of the increased EU targets on EE (see our comment #7 above) and <a href="#">the urgency to act</a> on climate change recently highlighted by the Intergovernmental Panel on Climate Change <sup>4</sup> .		
1 2	7	246 & 269	Availability of critical spare parts	<i>“Ensure that <u>critical</u> spare parts are available for at least 5 years after the production of a model ceases, to promote a longer average lifetime of the product.”</i>	All spare parts should be available <u>during at least the average product lifetime</u> .	
1 3	7	251	Figure 72	Graph is incomplete/wrong when compared to the energy label classes thresholds in Annex 6, Table 1 of <a href="#">Regulation (EU) No 392/12</a>	Please add a “C” line at EEI level 85 and remove the “D” line currently at EEI level 100	
1 4	7	253-254	Figure 74, Tables 60-62.	We welcome the suggested rescaling of the energy label and the fact that class A is left empty as requested by the Energy Labelling Framework regulation. We believe however that the classes should be aligned with the proposed PO2 and adapted accordingly. Also, the width of the proposed energy classes is too heterogenous and may not help the consumer differentiate based on energy efficiency. In addition, the fact that classes E and F would be left empty does not exploit the full potential of the rescaling.	Please revise the energy class thresholds so that they help the consumer differentiate based on energy efficiency. We suggest something along these lines:  A ≤ 55 55 < B ≤ 64 64 < C ≤ 74 74 < D ≤ 86 86 < E ≤ 100 100 < F ≤ 116 116 < F ≤ 134	
1 5	7	254-255	Condensation efficiency	The study team suggests 4 condensation classes (A-D) evenly distributed between 80 and 100. This has the problem of making the colour-code on the scale difficult. The study team also suggests no increase in condensation efficiency under the proposed policy options. Given that under the proposed energy efficiency requirements most heating elements driers will not be allowed on the market, and that the condensation efficiency of condensation driers is generally much higher, we believe an increased condensation efficiency requirement is feasible and necessary.	We recommend the study team to explore the benefits of this alternative solution: <ul style="list-style-type: none"> <li>• Three condensation classes evenly distributed between 85 and 100.</li> <li>• An Ecodesign requirement for condensation efficiency of 85 (as of 2021).</li> </ul>	
1 6	7	42 & 246	PO4	The study suggests some measures to facilitate repair and increase durability. We welcome these but think these options can be considered more comprehensively.	The study should look into the following design/policy options: <ul style="list-style-type: none"> <li>▪ Duration: <u>all spare parts should be available during the average product lifetime</u>, i.e. 12 years after the last unit is supplied.</li> </ul>	

<sup>4</sup> <https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>

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					<ul style="list-style-type: none"> <li>▪ Delivery: A <u>maximum delivery time of one week</u> for spare parts should also be specified.</li> <li>▪ Audience: <u>spare parts access should not be restricted to professional repairers but should be open to all types of repairers</u>. We firmly believe that no restrictions should be put to the availability of spare parts, to facilitate the involvement of as many actors as possible. Spare parts have a cost, which will serve as a deterrent to unexperienced consumers.</li> <li>▪ Ensure <u>unrestricted access to repair &amp; maintenance information from date of placing on the market</u>.</li> <li>▪ Other factors to consider include <u>disassembly requirements</u>, disassembly sequence, the cost of spare parts, the use of commonly available tools, and software update availability. Reference to ongoing work by the JRC and the Benelux/KU Leuven<sup>5</sup> study could be used to support this section.</li> </ul>	
1 7	7	42, 246, 256	PO3	The study suggests some measures for dismantling and recycling. In principle, we welcome these but think these options can be considered more comprehensively.	<p>The study should look into the following design/policy options:</p> <ul style="list-style-type: none"> <li>▪ We encourage to replace the term “dismantling” with “disassembly” to go beyond material recovery and recycling, and to also facilitate repair</li> <li>▪ Restrictions on the use of materials or chemicals which represent a hazard to the environment, consumers or workers (in the context of multiple cycles of materials in the circular economy), i.e. for SVHCs and POPs which will limit recycling pathways.</li> <li>▪ Restrictions on the use of materials or chemicals which represent a barrier to dismantling and recycling, i.e.: <ul style="list-style-type: none"> <li>○ Additives or coatings which are difficult to manage in recycling systems (e.g. carbon black, or opacifiers)</li> <li>○ Non-modular, multi-layer or multi-material designs which are difficult to separate.</li> </ul> </li> <li>▪ Marking of plastics and additives according to the relevant ISO standards, particularly marking content including flame retardants.</li> </ul>	

<sup>5</sup> [http://www.benelux.int/files/7915/2896/0920/FINAL\\_Report\\_Benelux.pdf](http://www.benelux.int/files/7915/2896/0920/FINAL_Report_Benelux.pdf)

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1 8	7	264-266	Turnover and employment	<p>Figures 80-82 and tables 73-75 fail to cover the increased revenues and employment in independent repairers, which results in Policy Options 3 and 4 looking less attractive than others.</p> <p>In addition, as the study team also highlighted “product service models” could also generate additional retail turnover and employment opportunities for manufacturers – if well designed these could be linked with repair. In general, the modelling of revenues and employment poorly accounts for or supports circular business models and how these can be resource and energy efficient.</p> <p>As both retail turn over and employment are used to inform the recommendations this is quite a big omission and works against the ambition to use eco-design as a lever for the circular economy.</p> <p>Some studies are already showing very clearly how diversified business models can support sustained revenues in a given sectors. e.g. for the automotive industry McKinsey show this for falling direct sales, substituted by a growing after-market (repair) and recurring (sharing) revenues.</p> <p>See <span style="float: right;">6</span> page <a href="https://www.mckinsey.com/~media/mckinsey/industries/high%20tech/our%20insights/disruptive%20trends%20that%20will%20transform%20the%20auto%20industry/auto%202030%20report%20jan%202016.ashx">https://www.mckinsey.com/~media/mckinsey/industries/high%20tech/our%20insights/disruptive%20trends%20that%20will%20transform%20the%20auto%20industry/auto%202030%20report%20jan%202016.ashx</a></p> <p>Some other general studies also highlight employment benefits from the circular economy :</p> <p>Green Alliance/WRAP 2015 <a href="http://www.wrap.org.uk/sites/files/wrap/Employment%20and%20the%20circular%20economy%20summary.pdf">http://www.wrap.org.uk/sites/files/wrap/Employment%20and%20the%20circular%20economy%20summary.pdf</a></p> <p>Circle Economy 2017 <a href="https://www.circle-economy.com/wp-content/uploads/2017/03/goldschmeding-jobs-report-20170322-lite.pdf">https://www.circle-economy.com/wp-content/uploads/2017/03/goldschmeding-jobs-report-20170322-lite.pdf</a></p> <p>WRAP/BITC 2018</p>	Estimate as possible the benefits from increased repairing activities.	

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				<p><a href="https://www.bitc.org.uk/sites/default/files/smart_growth_economic_case_circular_economy_may_2018.pdf">https://www.bitc.org.uk/sites/default/files/smart_growth_economic_case_circular_economy_may_2018.pdf</a></p> <p>Club of Rome <a href="https://circulareconomy.europa.eu/platform/sites/default/files/the-circular-economy-czech-republic-and-poland.pdf">https://circulareconomy.europa.eu/platform/sites/default/files/the-circular-economy-czech-republic-and-poland.pdf</a></p> <p>IISD 2018 <a href="https://www.iisd.org/sites/default/files/publications/employment-effects-circular-economy.pdf">https://www.iisd.org/sites/default/files/publications/employment-effects-circular-economy.pdf</a></p> <p>Coolproducts, 2018 (p9) <a href="http://ecostandard.org/wp-content/uploads/Briefing-on-Ecodesign-and-Energy-Labelling-for-a-circular-economy.pdf">http://ecostandard.org/wp-content/uploads/Briefing-on-Ecodesign-and-Energy-Labelling-for-a-circular-economy.pdf</a></p>		
1 9	7	266	Conclusions and recommendations	<p>The report states: “All the various policy options are evaluated based on a number of indicators. PO2 seems the most ambitious in terms of energy savings, but at the initial high cost of <b>consumers expenditure</b>.”</p> <p>While the statement is generally correct, it is based on average prices and fails to acknowledge the diversity of consumers and products in the market. Consumers for which upfront cost is an important criteria are able to find products whose cost is below the average. For example, from a quick internet search in the UK, we find:</p> <ul style="list-style-type: none"> <li>• <a href="#">Condenser tumble driers at £189.99</a> (€210.12, compared to an average of €504)</li> <li>• <a href="#">Air-vented tumble driers at £139.99</a> (€154,95, compared to an average of €248)</li> <li>• <a href="#">Gas-fired tumble driers at £179.99</a> (€199,06, compared to an average of €374)</li> </ul>	Change to: “All the various policy options are evaluated based on a number of indicators. PO2 seems the most ambitious in terms of energy savings, but at the initial high cost of <b>consumers’ average expenditure</b> .”	
2 0	7			<p>The report states: “All the various policy options are evaluated based on a number of indicators. PO2 seems the most ambitious in terms of energy savings, but at the <b>initial high cost</b> of consumers expenditure.”</p> <p>We recommend to include learning curves (mentioned in the Ecodesign methodology for new preparatory studies) to predict future cost benefits allowing to ‘account for price and efficiency effects of technological learning in the period between data</p>	We invite the study team to apply this methodology and thereby reach cost estimations that are closer to reality and allows for more effective policy measures.	

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				recording and a regulation taking effect' (Ecofys, 2014).		
2 1	6 - 7		Material efficiency	Use of recycled plastic has not been considered in design and policy options. This might be interesting as it could help bring the initial consumer expenditure down due to the use of more economic, recycled plastic.	Explore a design option which limits the amount of virgin plastic in TDs in Task 6, as has been suggested by the consultants under the preparatory study for vacuum cleaners.	
2 2	6 - 7		Moisture sensors	As we understand it, moisture sensors have not been included in the design or policy options.	We recommend that the study team assesses the benefits (in terms of energy consumption) and drawbacks (in terms of additional materials needed) of an Ecodesign requirement for mandatory moisture sensors - which would automatically stop the machine when a certain level of dryness is reached.	
2 3	6	197	Refrigerants	It has been established by the study that the heat pump technology is taking over the market and this will lead to a large quantity of refrigerants with high GWPs to be put on the market.	The study should include broken down data per type of refrigerant to identify the best technology available in terms of refrigerant use. Additionally, we invite the study team to take the opportunity of this review to further assess requirements to encourage a more widespread use of low-GWP refrigerants. Here some suggestions: 1. Efficiency bonus for appliances using $GWP \leq 4$ or preferably natural alternatives; 2. Malus scheme to penalize on the energy efficiency requirements those appliances using refrigerants with the highest GWP allowed in the market; 3. The Energy Label to include a pictogram indicating if a product contains a natural refrigerant and/or lower-GWP or a higher-GWP refrigerant; 4. Restriction of use of HFO.	
2 4	5	178	Energy consumption	The study team states there is "no data for energy consumption in other programs than the standard cotton program", however, under the current Regulation it is mandatory for manufacturers to provide indicative information on time and energy consumption of the main drying programmes.	We invite the study team to further check the availability of energy consumption in other programs as the real consumption might be higher than indicated in the base cases within Task 5. Other preparatory studies such as the ones for washing machines and dishwashers may serve as inspiration on how this information has been treated. In case of lack of information we invite the team to work based on assumptions.	