



POSITION PAPER

European legislation and standardisation to support sustainable business models for the PPE and textile care industry

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Background

Worldwide material consumption has expanded rapidly, as has material footprint per capita. The EU Action Plan for the Circular Economy [1] has established a specific programme of action which shall help to ‘close the loop’ of product lifecycles. It proposes actions to keep resources in the economy and retain the value of these resources, which will contribute towards delivery of a sustainable, low carbon, resource efficient and competitive economy.

Sustainability is also the foundation for today's leading global framework for international cooperation – the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs) [2]. SDG 12 wants to ensure sustainable consumption and production patterns. Moreover, SDG 12.7 promotes public procurement practices that are sustainable following national policies and priorities.

Should the EU want to maintain its leadership in designing and producing circular products and services and in better empowering consumers to adopt more sustainable lifestyles, new actions are needed. This paper wants to encourage the Commission and the standardisation bodies to take action in areas where a sector, mainly driven by SMEs, has already a business model which incorporates principles of reuse, repair, recycle and a shared economy: textile services for personal protective equipment (PPE) and medical devices.

Potential tools to address this issue are integrating the principles of a circular economy and sustainability into legislation such as the PPE Regulation or the Medical Device Regulation, integrating circular aspects into standards. It would support SMEs and the principle of “Think small first!”

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The role of SMEs in a circular and sustainable industry

SMEs play a vital role in this concept: The textiles services sector is an SME driven sector where local and regional players – laundries and dry-cleaning companies – are key to provide all sorts of functional PPE clothing and other clothing and textiles reprocessed on a regular basis. They serve customers in their region with services and products that are rented. Their business principle is, that these products should be reprocessible as often as possible – a core concept of a circular economy. Product life extension is a fundamental element of the textile services business model: Rented products have an extended lifespan due to a fit-for-reprocessing design.

Economic success of these SMEs therefore goes hand in hand with the sustainable principle of using as few resources as possible and keep products in the process as long as possible. Successful textile service companies are those who are able to invest in textile products that have the longest lifecycle and work together with PPE manufacturers or surgical textiles producers which are able to adapt their products to a high number of reprocessing cycles. At the end-of-life, reuse and recycling already accounts for 67% of the discarded textiles in textile services and the percentage is growing. The key principles of a circular business model (reuse, repair, recycle) is already applied in the major parts of the textile service business [3]. Additionally, different from many other industries and sectors, the shared economy model is applied – meaning that PPE, surgical textiles and other products are purchased by textile service SMEs and rented to customers which gives them access but no ownership.

The environmental impact of "textile services" of PPE and other products has a significant benefit versus disposables in several product areas such as PPE, surgical drapes and gowns or hand drying systems, and many other products – in contrast to disposable products such as paper towels, disposable drapes and gowns or products which cannot be reprocessed properly.

Research underlines advantages of textile services

Life Cycle Analyses (LCA) of hand-drying systems – a comparative study of cotton towel rolls and paper towels[4] and the ARTA LCA of Reusable and Disposable Surgical Drape Systems[5] are good examples which show the advantages of products which are used multiple times, are reprocessible, repairable and recyclable.

LCA of Reusable and Disposable Surgical Drape Systems

Results: Reusables perform significantly better than disposables in terms of resource efficiency:

- Carbon footprint: 38% savings
- Also 38% less energy
- 80% less solid waste
- 60% less resources for transport
- Figures for water savings will follow shortly

Conclusion: Selecting reusable drape systems may result in significant environmental benefits compared to selecting disposable garment systems.

Figure 1 Environmental assessment of ARTA LCA of Reusable and Disposable Surgical Drape Systems

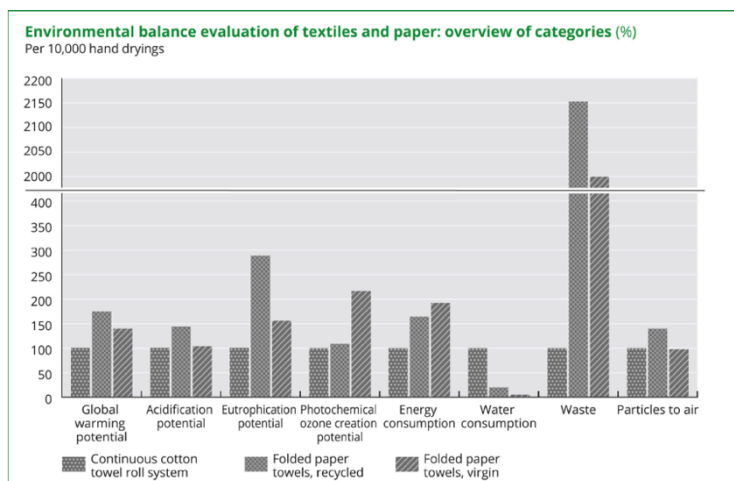


Figure 2 Assessment of 8 different categories evaluated by the LCA of hand-drying systems - cotton towels vs disposable paper. 7 of 8 categories depicts cotton rolls as a better ecological decision.

A textile service can be described as a recycling management system. By leasing, renting and providing maintenance with the various products, service providers administer the supply of various textile products for professional use, such as workwear, protective clothing, surgical gowns, workwear, towel rolls, dust mats, cleaning rags, etc. Their services are washing, drying, repairing and delivering them to the customers in their region and taking them back after use to start the circle again. These companies serve hotels, hospitals, industry, crafts, trade and social services with their products.

In most cases, these specific textiles have an extended lifespan which is an environmentally-friendly alternative to many disposable products in the market. Besides, re-usage of PPE or medical device products keeps customers from the financial and administrative burden of disposing of waste. Overall, raw material costs, energy consumption and waste production are also considerably reduced. Therefore, renting textiles ensures that customers have a product supply whenever and wherever they need it (just in time vs just in case). It also guarantees that the lifecycle of each textile is optimised and the recycling (if possible) when textiles are no longer usable.

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Recommendations for implementation of circular principles in standardization and procurement

Standardisation

The lifecycle of a PPE product greatly varies and depends on the quality of the raw materials and the manufacturing process – and in case of PPE clothing or a surgical gown on the washing and reprocessing performance of the product. As a result, manufacturers can take a holistic approach, focusing on how to improve every aspect of the lifecycle, from raw materials and production to transportation and logistics to final customer use to expand the lifecycle of the product. Standards can simplify this process, allowing for both manufacturers and service providers to ensure product specifications for longevity, durability and recyclability across a wide range of PPE in use. Any product requirements related to reuse, reprocessing, repairability and recyclability should be integrated into European standards. This would help changing production chains to develop products which are designed and fitted for a circular use. With the New PPE Regulation 2016/425 and Medical Device Regulation 2017/745 there are opportunities arising with those

standards which are to be harmonised with these new regulations, so now is the time to make standards helping to seize this opportunity.

The so-called SUCAM guidelines (Selection, Use, Care and Maintenance) for all kinds of PPE products, which have been and are still developed by some standardisation WGs address some of the issues of a proper selection of PPE products including aspects of repair and reuse. However, they need to be amended in a way that they incorporate the circular thinking. Intensifying efforts for such standards strengthen the local economy (collecting, processing and re-distributing) with more jobs, less waste and a lower carbon impact.

Obviously, the existing PPE legislation is mainly product driven and setting requirements for safety and health functions. Drafting PPE standards and certification so far focuses on helping to reach conformity with the relevant legislation – 2016/425 – and thus ensure product requirements. Unfortunately, no requirements or references to reprocessing and lifecycle of products are integrated so far. This means that the Regulation and the referring standards do not have any effect on circularity, although existing business models enable this, as shown above.

Guideline documents to the PPE Regulation refer to reprocessing in paragraph 11.6.1.4 in terms of cleaning, maintenance and disinfection, e.g. the laundering and drying conditions:

- maximum number of cleaning cycles that can be performed, i.e. after how many cleaning cycles the PPE has been tested
- operations necessary to apply after cleaning or maintenance, to ensure that the PPE retain the optimum level of effectiveness.

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However, this is only referring to information to be given by the manufacturer to the customer. There is no requirement in the Regulation to aim for longer lifecycles of products.

Procurement

Public procurement processes should also include more elements of circularity. A procurement process focused on prices for products and services does not take into account the costs during a longer period of time such as the costs for the procuring organisation stemming from the limited lifespan of products when they have to be replaced earlier than products with longer lifecycles or with possibilities for repair and reuse. It also ignores the environmental costs and loss of resources along production chains. PPE clothing or disposable surgical drapes and gowns, which cannot be reprocessed properly, consume much more natural resources.

The solution has clearly been shown in the European Clothing Action Plan [6]: “Government procurement bodies clearly have significant demand-pull potential within the workwear garment sector. In addition to its direct role as a purchasing client for workwear textiles, Government also has an indirect role through

legislation and regulation. In some cases this can lead to challenges around overcoming significant barriers (e.g. fiscal) to encouraging more circular pathways for workwear procurement within public bodies.”

SMEs in Europe are relevant suppliers of local and regional services to public institutions. SMEs are also more flexible and adaptable, therefore able to provide "greener" solutions that align with SDG 12.7. A life cycle analysis and comparison of disposable products from anywhere in the world with the necessary use of resources for production and transportation for every single disposable product without a circular concept will mostly show a higher use of natural resources compared to long-lasting products which are often produced in Europe itself and are reprocessed more than 50 times by local SMEs.

Building on the EU Green Public Procurement, national and local authorities should enhance efforts to include circular economy criteria that promote and boost local markets for circular products and services.

Take action

Circular economy is an effective way to achieve both environmental sustainability and economic wellbeing. Whereas global value chains have demonstrated to produce huge negative impacts in terms of waste and CO2 emissions, local SMEs that rent and reprocess goods have a big potential to generate positive environmental and socio-economic externalities.

Therefore, the regulatory framework, standards and public procurement policies should be conducive to circular economy.

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SBS therefore asks for the following actions to improve the policy and regulatory conditions.

Regulation and standardisation:

- implement aspects of circular economy wherever possible in the next PPE and Medical Device regulation
- draft product standards on PPE and surgical textiles should, wherever possible, include and precisely describe requirements regarding the reusability and longevity of products during their life cycle for all stakeholders along the value chain
- standards should also contain suitable technical specifications for PPE and Medical Devices products to be recyclable, wherever products are available which can be recycled
- encourage better design for durability and lifetime optimisation by developing standards with respective requirements

Public procurement:

- public procurements to include principles of sustainability, reusability and circular economy for PPE and other textiles
- procurement processes should encourage resource efficient business models such as servitisation, take-back and buy-back
- purchase products which require less energy for washing and drying during their life cycle
- purchase products which are more durable in use and ensure a longer protective function

- contract service providers for PPE, medical devices and other products, which minimise energy used for reprocessing and maintain PPE in order to extend their lifetime
- contract service providers which maximise the potential for reuse of products and recycling at the end of life
- standardisation bodies, in particular CEN and its members, the National Standards Bodies, to balance the interests of stakeholders and experts from manufacturers, users, collectors, recyclers and reprocessors of PPE clothing and other textiles, adding views on circular products and servitization.

[1] European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Closing the Loop - an EU Action Plan for the Circular Economy*, 2 December, 2015, COM/2015/0614 final, available at: <<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1453384154337&uri=CELEX:52015DC0614>> [last accessed 2 March, 2020].

[2] United Nations, General Assembly Resolution. *Transforming our World: the 2030 Agenda for Sustainable Development*, 21 October, 2015, A/RES/70/1, available at: <https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E> [last accessed on 2 March, 2020].

[3] Grüttner, Henrik, and Birgitte, Lilholt Sørensen, 'SDU report on end-of-life of laundry textiles. Part 1: Textile services are part of the circular economy', 2018, SDU Life Cycle Engineering.

[4] Gama, Margarida, Lyubov Slotyuk, Torsten Rehl, Viviana Carrillo, and Constantin Hermann. *LCA of Mechanical Hand-Drying Systems: A Comparison of Cotton and Paper Towels*, 2016.

[5] Griffing, Evan, and Michael Overcash. *LCA of Reusable and Disposable Surgical Drape Systems*. In American Reusable Textile Association (ARTA): 2018 Education Conference. Ottawa, 25-27 July 2018.

[6] ECAP – *European Textiles & Workwear Market. The Role of Public Procurement in making textiles circular*. Project Code: ENV/UK/00257, March 2017

Small Business Standards (SBS) is the European association representing and supporting small and medium-sized companies (SMEs) in the standardisation process, both at European and international levels.

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