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# Analysis of textile waste streams in the Czech Republic

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The constantly growing population and standard of living have, together with the phenomenon of fast fashion, caused a significant increase in textile consumption around the world. The textile industry consumes a large amount of natural resources, contributes to environmental pollution and produces greenhouse and waste gases. In 2020, the EU adopted the new Circular Economy Action Plan (CEAP) which principles have to be implemented into the legislation of each Member state for the transition to the circular economy where the recycling of all types of usable waste is maximized. In the Czech Republic, a new waste treatment law based on the CEAP appeared in 2020. The new waste treatment law determines important changes to existing collection and treatment methods of textile waste. As a basis for optimizing these processes, a material flow analysis (MFA) was created to determine the current state with textile waste streams in the Czech Republic. The results showed that the production of industrial textile waste was

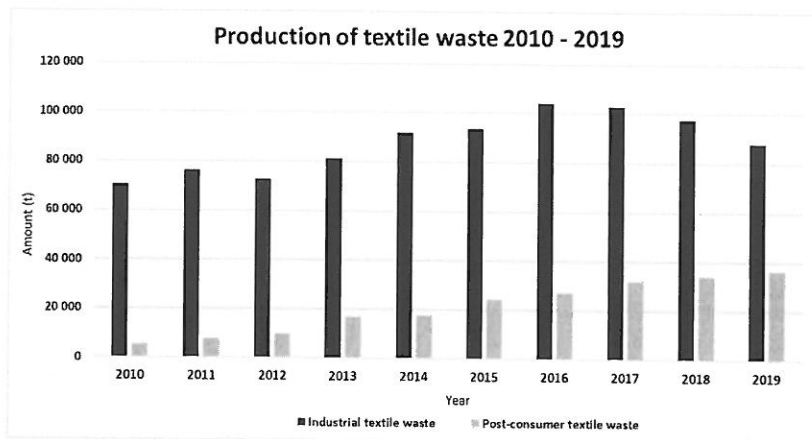


Figure 1: Development of textile waste production in years 2010–2019



70 405 tons in the year 2010 and 87 840 tons in the year 2019, so there is no significant increase for this type of textile waste. The production of textile waste from households was 37 393 tons in the year 2019 and, comparing to the year 2010, it is almost ten times higher (Fig.1). Moreover, the analysis of municipal solid waste (MSW) samples showed that they contained 5–7% of different types of used textiles which may be suitable for recycling. Surprisingly, according to MFA based on official data, more complex textile waste from households is mainly recycled while more homogenous industrial textile waste with a known composition is more often landfilled or incinerated. Our results confirm that the Czech Republic is not well prepared to fulfill the ambitious goals of the CEAP in respect to textile waste because of continually growing volumes of this type of the waste and hardly available official data about its production, lack of recycling technologies and obsolete waste collection system.

