Bosnia and herzegovina battery recycling

The main goal of the paper is to review the existing state and propose a model solution for the introduction of the waste-to-energy concept in the Republic of Serbia and Bosnia and Herzegovina, as these Balkan countries are a source of high pollution due to the inefficient use of fossil fuels and the operation of coal-fired power plants.

A project on preventing marine litter commenced in 2018 and involves local and national actors in the waste and recycling industry in Albania, Montenegro and BiH. The focus of implementation is on regional cooperation and the exchange of knowledge between national institutions, municipalities and companies.

As drivers of the energetical transition, multi-metal or battery recycling plants play a determinant role into securing availability of mineral raw materials that are both strategically important and highly demanded by keeping them away from the landfills and reducing the need for importing them.

In addition to Greenhouse"s commercialisation licenses for the United Kingdom, Ireland and Italy, the commercialisation rights in the Western Balkans include Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Romania, Serbia, Slovenia and Slovakia.

Bosnia and Herzegovina (BiH) has stated various qualitative objectives, such as: increasing the amount of treated waste o improving the coverage of waste disposal o closing municipal landfills and gradually transferring to a regional disposal model o combining separation and recycling targets with

The main goal of the paper is to review the existing state and propose a model solution for the introduction of the waste-to-energy concept in the Republic of Serbia and Bosnia and Herzegovina, as these Balkan countries are a source of high pollution due to the inefficient use of fossil fuels and the operation of coal-fired power plants. Besides, these countries have very low level of waste management, which results in the uncontrolled disposal of a large amount of waste which consists of plastic and microplastic materials which are difficult to decompose in natural ecosystems.

Considering the type and objectives of the study, a mixed research method was chosen as a combination of exploratory research, descriptive research, explanatory research, and modeling.

The paper emphasizes the importance of a holistic and systemic approach to waste management, with emphasis on using waste-to-energy concept as particularly applicable in the transition to circular economy. This study proposes a model for the integration of waste management (with emphasis on plastic and microplastic) and energy efficiency, presenting a model of approach that can be used in countries that are at the beginning of introducing a circular economy.

If waste is not handled adequately, it poses a risk to human health and the environment [4]. Waste management is one of the key issues of sustainable development, especially if one considers the variety of waste and its potentially harmful effects, as well as the limited capacities of developing countries and economies in transition. Based on the preceding, it is feasible to deduce that waste management is intricately linked to a number of additional worldwide predicaments, including but not limited to health concerns, climate change mitigation, reduction of poverty, natural resource and food security, and sustainable production and consumption [5].

To implement the 2030 Agenda, the UN and other international organizations have proposed specific waste management indicators for specific goals. Each country should adapt them to its national goals, i.e., include them in national planning processes, policies, and strategies, taking into account the circular approach [6].

Municipal waste management includes the collection, treatment, and final disposal of waste produced by households, small and medium-sized enterprises, medical institutions, shops, craft shops, industry, agriculture, etc. The current linear economic model based on the "take-make-dispose" pattern is reaching its physical limits amid estimates that the waste produced annually will reach 2.59 billion tons by 2030 and that this amount will rise to 3.40 billion tons worldwide by 2050 [7].

The traditional linear production process ("take-make-dispose") tends to be replaced by a circular production process: circular economy (CE). As a fundamental part of CE, the service life of materials is extended through the imperatives of reduction, reuse, recycling, and recovery, which are widely accepted as the foundations of CE [8]. In other words, materials and resources must be kept active in the economy for as long as possible by extending their lifespan, thereby minimizing waste. Recycling is one of the ways to reuse products and thus reduce the extraction of primary natural resources [9].