NEW TRENDS IN CIRCULAR ECONOMY IN SLOVAKIA

NOVÉ TRENDY V OBEHOVEJ EKONOMIKE NA SLOVENSKU

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ABSTRACT

Plastics are an important material in the economy but present a challenge for waste management, resource efficiency and the environment. Low rates of recycling and high rates of environmental leakage represent key sustainability challenges for plastics as well as product designers and producers. Aim of the research paper is to present the new trends in circular economy of the Slovak Republic. A range of policy instruments can be applied to improve the sustainability of plastics, including regulations, market-based instruments, information and voluntary tools.

KEY WORDS

Circular economy, Policy instruments, Resource efficiency

JEL – CLASSIFICATION: *Q50, Q58*

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1 Introduction

Circular economy is gradually winning political support in Slovakia and several framework conditions have been created to facilitate progress, e.g. in the area of waste management. During the EU Council presidency in 2016, the main goal within the Environment Council was to actively contribute to the current European discussion about the transition to the green economy and circular economy. The Slovak presidency triggered the development the "Bratislava Green Economy Process" the main goal of which is to enable regular and broad discussion about progress towards the green economy in the context of strategic EU documents such as the Europe 2020 strategy, 7th Environment Action Programme and others (Aguilar-Hernandez, Dias Rodrigues & Tukker, 2021, Barreiro-Gen & Lozano, 2020, Corvellec, Stowell & Johansson, 2021).

The European Commission has decided that by 2025, all EU Member States must ensure that 90% of single-use plastic bottles and cans are collected (Grafstrom & Aasma, 2021). On this basis, the Ministry of the Environment of the Slovak Republic drafted a bill on the deposit of disposable beverage packaging, which was approved by the Parliament on 11 September 2019.

2 Circular economy and plastic deposit system in Slovakia

The main objective of Act No. 302/2019 Coll. on the backup of disposable beverage packaging, which entered into force on 1 December 2019, is to increase the collection rate of waste from disposable beverage packaging and, at the same time, to reduce the amount of freely dumped disposable beverage packaging, which is the usual component of solid waste in the country (i.e. packaging that is found in the wild). The law regulates:

- the rights and obligations of legal and natural persons when backing up disposable beverage packaging (e.g. the rights and obligations of the manufacturer or distributor of such packaging),
- the tasks of the administrator of the deposit system for such disposable beverage packaging, which is a non-profit organisation providing services of general benefit established in the territory of the Slovak Republic and established for an indefinite period of time,
- the competence of the state administration authorities for the area of backup of disposable beverage packaging and waste from such packaging (e.g. the Ministry of the Environment of the Slovak Republic),
- state supervision and the procedure of state supervision bodies in its exercise (Slovak Chamber of Commerce), administrative offences and the procedure for imposing fines.

At the same time, it introduced a deposit system for plastic bottles and cans, which is to operate from 1 January 2022. Together with the Act, its implementing regulation – Decree No. 347/2019 Coll., implementing certain provisions of the Act on the backup of disposable beverage packaging – entered into force on 1 December 2019. For example, it determines the minimum amount of the deposit for disposable beverage packaging.

According to the explanatory memorandum, the aim of this amendment is, in particular, more precise legislative regulation of the cooperation between the Ministry of the Environment of the Slovak Republic and the administrator of the deposit system related to ensuring the functioning of the deposit system. It is also intended to fine-tune some of the legislative settings of the backup system, which need to be aligned with the functionalities of the backup system. Given the length of the legislative process, the amendment is proposed to take effect on 15 November 2021. The amendment will bring a number of changes which can be summarised in three key areas:

- extension of the exemptions from the backup of plastic PET bottles and cans,
- a ban on the marketing of beverages in disposable packaging,
- new obligations for the administrator of the deposit scheme.

Backing-up of plastic PET bottles and cans will not apply to certain beverage packaging from 15 November 2021. Under the current law, the back-up system for disposable beverage packaging, i.e. single-use beverage packaging, currently applies to beverage packaging: plastic bottles (0.1 litre to 3 litres); of metal, which are cans (0.1 litre to 3 litres).

However, in the process of designing the deposit system, the need arose to exclude certain specific cases of the ways in which disposable beverage packaging is placed on the market which, by the nature of that placing on the market, appear to be inappropriate for the deposit. These include, for example, the sale of disposable beverage containers to passengers on means of transport in international transport or the sale of beverages in a duty-free zone. As these packages will be exempted from backup, the packaging producer will not pay any fees to the administrator for them.

In order for the deposit system to function properly, the packaging producer is obliged to request the administrator to conclude a contract for the performance of the obligations under

the Act within 60 days of receiving the notification of the commencement of the activity of the administrator. From 15 November 2021, another new provision will apply, according to which a packaging producer who has not paid the obligations under the performance contract may not place beverages on the market in backed-up disposable packaging. In other words, if a producer of backed disposable packaging does not fulfil its obligations under the contract with the administrator, it will not be able to market beverages in backed disposable packaging. This measure builds on the fact that the administrator is not entitled to terminate the contract with the packaging producer.

The administrator of the backup system, which according to the law is a non-profit organisation providing services of general benefit established in the territory of the Slovak Republic for an indefinite period of time, is responsible for the organisational and technical solution of the backup system. From 15 November 2021 it will have new obligations. One of them, for example, will be the obligation to deliver to the Ministry of the Environment of the Slovak Republic annually, no later than 31 July of the calendar year for the previous calendar half-year and by 31 January of the calendar year for the previous calendar half-year, a report on its activities. In addition, the amendment also adds a control mechanism in the form of an obligation for the administrator of the advance payment system to provide and maintain a transparent account with all payment operations related to its function.

During the legislative process, the submitter received more than 250 comments on the amendment. A number of them suggest that many practical issues are unfinished. One of them is the issue of uncollected advances. At present, PET bottles and cans end up in the sorted collection. These are the familiar yellow containers. When the waste from deposit packaging is diverted from this system, its producers will pay the deposit system administrator to manage it. However, the law lacks information on what happens to uncollected deposits. This problem has been pointed out in comments by several entities, including the Republican Union of Employers , which calls for the introduction of a mechanism for redistributing uncollected deposits among sorted collection operators. This is intended to prevent a situation where some waste ends up in the sorted collection system (e.g. plastic bottles which customers do not return to the shop but throw away), but the money for which remains with the deposit system administrator, who does not ensure any management of this waste.

3 Research design

The aim of the paper is to present the new trends in circular economy of the Slovak Republic. In this paper, we articulated the following research question:

- How can we effectively increase the circular material use rate in Slovakia?

On the basis of the Regulation on waste statistics (EC) No. 2150/2002, amended by Commission Regulation (EU) No. 849/2010, data on the generation and treatment of waste is collected from the Member States. The information on waste generation has a breakdown in sources (19 business activities according to the NACE classification and household activities) and in waste categories (according to the European Waste Classification for statistical purposes). The information on waste treatment is broken down to five treatment types (recovery, incineration with energy recovery, other incineration, disposal on land and land treatment) and in waste categories.

All values are measured in tonnes of waste and in kg per capita, based on the annual average of the population. The Member States are free to decide on the data collection methods. The general options are: surveys; administrative sources; statistical estimations; or some combination of methods. For the first reference year 2004 Member States could apply for permission not to deliver part of the information: waste generated by agriculture and fishing and waste

generated in the services sector. For this reason, the information is missing for some of the countries.

4 Results and discussion

A circular economy aims to maintain the value of products, materials and resources for as long as possible while minimising the generation of waste and the use of new resources (Geng, Sarkis & Bleischwitz, 2019, Savini, 2019, Traven, 2019, Velis, 2018). When a product reaches the end of its life, its materials are kept within the economy wherever possible. These can be productively used again and again, thereby creating further value (Zink & Geyer, 2017, Winans, Kendall & Deng, 2017). Model may generate safe jobs in Europe, promote innovation which will provide a competitive advantage and level of protection of people and of the environment. It may also provide longer-lasting and more innovative products to customers which will save their money and enhance the quality of their lives.

4.1 Status Quo of Circular Economy in Slovakia

In the context of plastics, procurement criteria can address different aspects of the plastics value chain. For instance, avoiding the consumption of particularly wasteful or polluting plastic products (e.g. single use straws), or promoting good practice in waste management (e.g. separate collection of waste streams), as well as favouring products which are well designed (i.e. for re-use and recycling). Košice region reached in 2019 the highest percentage of minicipal waste recovered. The second place went to Bratislava region (Table 1).

Table 1
Performance of the Waste Management and Circular Economy in Slovakia – part I

Region	Percentage of municipal waste recovered	Recycling	Incineration	Composting	Backfilling	Other form of recovery
Slovak Republic	**45,61**	**47,47**	**11,60**	**40,89**	**0,04**	**0,00**
Bratislava Region	**46,36**	33,13	22,42	44,45	0,00	0,00
Trnava Region	**45,02**	53,91	0,00	46,05	0,04	0,00
Trenčín Region	**43,08**	47,00	9,69	43,30	0,00	0,00
Nitra Region	**42,05**	50,22	0,00	49,78	0,00	0,00
Žilina Region	**43,52**	59,98	0,07	39,95	0,00	0,00
Banská Bystrica Region	**41,23**	54,17	0,00	45,83	0,00	0,00
Prešov Region	**40,16**	54,14	0,82	44,70	0,35	0,00
Košice Region	**64,26**	34,95	45,25	19,80	0,00	0,00

Source: *Eurostat (2021)*

Banská Bystrica region is a leader in disposing the municipal waste (Table 2). In 2019, 213 047.581 tons of waste were produced in the city of Bratislava, which is 487 kg of waste per inhabitant per year, based on the number of inhabitants. The municipal waste sorting rate for 2019 was 31.33%.

Table 2
Performance of the Waste Management and Circular Economy in Slovakia – part II

Region	Percentage of municipal waste disposal	Landfilling	Incineration within energy recovery	Other form of disposal	Percentage of municipal waste stored
Slovak Republic	**54,17**	**93,34**	**6,65**	**0,01**	**0,22**
Bratislava Region	**52,13**	51,27	48,69	0,04	1,51
Trnava Region	**54,98**	100,00	0,00	0,00	0,00
Trenčín Region	**56,90**	100,00	0,00	0,00	0,02
Nitra Region	**57,93**	100,00	0,00	0,00	0,02
Žilina Region	**56,47**	100,00	0,00	0,00	0,01
Banská Bystrica Region	**58,77**	100,00	0,00	0,00	0,00
Prešov Region	**59,84**	100,00	0,00	0,00	0,00
Košice Region	**35,74**	100,00	0,00	0,00	0,00

Source: *Eurostat (2021)*

4.2 App-based platforms

Various existing and emerging digital solutions, such as smartphone apps, can help facilitate information flows throughout the plastics supply chain. In principle, these tools intend to enable end consumers to make better informed purchasing decisions, thereby potentially favouring alternatives with less health and environmental impacts on the market and send a market signal to producers and designers about consumer preferences. One example is the Beat the Microbead app, through which consumers can verify whether a product contains plastic microbeads by scanning the barcode with their smartphone camera. The app was initiated by the world-wide campaign with the same name, launched in 2012 by the Amsterdam-based NGO Plastic Soup Foundation, sponsored by the UN. In late 2017, the Foundation also launched the My Little Plastic Footprint app, intended to help consumers reduce their personal plastic footprint by, for instance, providing information about the issue of plastic waste and encourage consumers to join pledges related to their plastics consumption. Other examples include the GoodGuide apps, rating products according to their health impacts and enabling consumers to make more informed decisions. ToxFox, developed by Friends of the Earth Germany, is available in some European countries and intends to help consumers identify hazardous substances in products. The European AskREACH app enables consumers to send requests to suppliers about Substances of Very High Concern (SVHC), facilitating the "right to know" provision included in Article 33 of the EU REACH regulation. A potential limitation of this type of measures is their uptake, including the participation of producers. In order to achieve their objectives, these apps rely to a large degree on the comparability of product information which may require the existence of a centralised, harmonised system of disclosing product information. Such a system would optimally need to apply the same to all relevant products, or at least ensure sufficient market coverage.

The My-waste mobile recycling app works with municipalities across the globe to deliver up-to-date waste and recycling information to residents. Users can sign up and enter their postcode to receive reminders about bin collection dates within their region, set reminders for waste and recycling collections and even search the 'What Goes Where' database if user is unsure what user can recycle. It also provides information on waste disposal and recycling drop-off

points closest to the user. The app also works with digital assistants such as Google Assistant and Amazon Alexa.

5 Conclusion

Engaging and providing opportunities for consumers to change their purchasing behaviour is key. This includes providing sufficient and reliable information and, importantly, combining information with awareness raising and tools to enable better informed sourcing and consumption, such as online databases and consumer smartphone apps. Meanwhile, collecting and analysing data on chemicals and plastic additives can be very costly and time-consuming for individual manufacturers. Transparency, knowledge exchange and collaboration are therefore important components to obtain comprehensive and lasting design shifts throughout the industry. Similarly, harmonisation of eco-design and product standards may support fair competition between firms and create economies of scale for the wider use of more sustainable alternative materials.

A central component of sustainable plastics design is the circularity of plastics – both to have access to a clean and safe supply of secondary plastic raw materials but also to encourage design of products that are easily disassembled and recycled at end of life. Common quality standards for secondary plastic raw materials might be one solution, in combination with investments in appropriate collection and waste management infrastructure. The Act on the deposit of disposable beverage packaging, which established a deposit system for disposable beverage packaging (plastic PET bottles and cans), entered into force on 1 December 2019. The amendment, which will bring important changes to the advance payment system, such as exempting certain cases of how disposable beverage packaging is placed on the market, is expected to enter into force on 15 November 2021.

The introduction of the deposit system in practice is foreseen from 1 January 2022. From then on, plastic PET bottles and cans will be subject to compulsory deposit. The amount of the deposit for the backed-up disposable beverage container is determined by Decree: EUR 0.12 per plastic bottle, EUR 0.10 per can. The price of the deposit should be increased to EUR 0.15 per plastic bottle or can, with the proviso that it should be shown separately from the selling price and then added to the price of the beverage. This should give people (consumers) more incentive to put them back into the system (deposit).

A mix of policy instruments and approaches will be required to incentivise design of more sustainable plastics. This paper identifies a number of interesting examples to contribute to future reflection about potential opportunities for further action and how successful existing examples might be scaled up or applied in European countries.

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