

The conditions for implementing a circular economy in the Czech Republic

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In July 2018, measures of the European Commission regarding the Circular Economy Package (CEP) came into force. All EU Member States have two years since to implement these measures into their national legislations. The aim of the authors is, using available resources, to evaluate current conditions in the Czech Republic in the areas affected by this legislation. It is primarily the area of waste management, which has set values within the CEP that must be achieved within those two years. The article offers an analysis of the circular economy penetration into the Czech legislation. The procedure for introducing changes in legislation is presented through the Waste Management Plan (WMP) for the period 2015-2024. The aim of the article is to verify whether the Czech Republic is able to meet the EU and WMP's requirements in the current development of waste management. The authors are first to use the analysis of secondary data from national and transnational sources, from which they created unique and original outcomes for the given issue. After the analysis, they introduced the measures that could be used for the greater motivation of the target groups in order to meet the goals of the Czech Republic. The authors address the concrete impacts of CEP implementation within the Czech Republic and also present Czech examples of good practice.

Keywords: Circular Economy; Circular Economy Package; Waste Management Plan; Legislation; Czech Republic; European Union

Introduction

In recent years, the term circular economy has been repeatedly debated not only in the European states. A circular economy as a counter for a linear economy that has been used all over the world. The purpose of the circular economy is to transform waste into resources, i.e. waste that can be reused is transformed and then returned to the production process. This will reduce state dependence on primary resources, which must very often be imported from very distant and often politically unstable countries. In addition, there are savings of primary resources, which are mostly mineral raw materials characterized by their non-renewable nature, i.e. their reserves are exhaustible in the long run. For this reason, it is necessary, as Šimková (2016) suggests, focusing on strategies leading to the responsible use of raw materials.

The need to implement the circular economy has been foreseen by the European Union, respectively by the European Commission, which on the 3 December 2015 adopted the so-called Circular Economy Package. Over the following three years, talks have been taking place on the final values to be achieved across all Member States. The given values were approved by the Member States on 22 May 2018 under the Circular Economy Package, which came into force on 4 July of the same year.

The Circular Economy Package and the related environmental legislation at European Union level is a field of expertise of Wysokińska (2017), who lists individual strategic plans and their aims. In particular, the Strategic Plan 20/20/20 is de facto a document setting goals to be achieved by 2030. The aim of this plan is recovering from the crisis and preparing the European economy for the next decade, i.e. period until 2030. The whole strategy is based on promoting the knowledge-based economy, participating in the labour market, eliminating poverty and more resource-efficient production (Bilan, 2013). Furthermore, national strategies shall be linked to the right corporate strategies that can provide additional funding and reduce the cost of implementing the legislative obligation. Chlopečký (2018) shows such cooperation using the example of mining companies and highlights the importance of econometric models of mining and subsequent prediction models of mining.

Stahel (2017) states that the circular economy and the Circular Economy Package are a result of an industrial economy and consist of two parts: industrial goods (technological cycle) and food and water (biological cycle). Both of these cycles need to focus on zero waste system and prevention of waste. Bartl (2015) presumes that the Circular Economy Package focuses too much on recycling and not enough on prevention of waste production. However, the Circular Economy Package is not all that the European Union introduces within the field of waste management. On 16 January 2018, the so-called Strategy for Plastics was announced by the European Commission saying that by 2030 only plastic that is either reusable or recyclable shall be used and that

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it is necessary to lower the pollution of plastic, especially microplastics, into the environment. As one of the main benefits of recycling plastics EU considers the fact that its members will be less dependent on the import of fossil fuels (Ministry of Industry and Trade of the Czech Republic, 2018).

Another step leading towards lowering the amount of plastic waste, based on the Strategy for Plastics, is the European Parliament and Council Directive on the Limitation of the Impact of Certain Plastic Products on the Environment of 28 May 2018. This Directive prohibits the production of certain plastic products for which there are available and affordable alternatives. The ban applies specifically to the following products: plastic cotton buds, cutlery, plates, straws, stirrer sticks, balloon sticks that have to be replaced with sustainable materials. Disposable plastic drinking beverage containers will only be allowed on the market if their caps and lids remain attached to the container. The ban on the distribution of these products will apply from 2021. In addition, by 2025, Member States will have to ensure the collection of 90% of disposable plastic bottles of beverages (Treti ruka, 2018).

Circular Economy Package in Czech Legislation

From the time when the Circular Economy Package came into force, the Member states have 24 months to implement its content into their national legislations. That means that all EU Member States must have a valid legislative until the 5 July 2020, including the following directives:

- Directive 2018/851 / EU amending the Waste Directive,
- Directive 2018/852 / EU amending the Packaging Directive,
- Directive 2018/850 / EU amending the Landfill Directive;
- Directive 2018/849 / EU amending Directive 2000/53 / EC on end-of-life vehicles, 2006/66 / EC on batteries and accumulators and waste batteries and accumulators and 2012/19 / EU on waste electrical and electronic equipment.

In the Czech Republic, it mainly concerns updating Act no. 185/2001 Coll., On Waste and Act no. 477/2001 Coll., On Packaging and the introduction of the law on end of life products. Kozel (2015) deals with selected aspects of Czech legislation in relation to the environment and above all, the solution of environmental needs by means of appropriate legislation. Similar problems are also addressed by Slovak authors. Horodníková (2008) shows the importance of legislative by the implementation of new technological solutions in using renewable energy sources. Khouri (2016) deals with a system approach to solving the problems of re-use of metallurgical brownfields, as a potential tool to support further regional development, accepting the valid legal regulations, as well as the principles of sustainable environmental development.

Given that the process of endorsement of the Circular Economy Package was relatively extensive and the values changed over the years, the legislation in this area could not be adopted earlier. In 2015, the plan was to achieve the following three goals in the field of waste management: reaching 65% rate of the municipal waste recycling, 75% of packaging waste recycling and also that within the European Union only 10% of all waste will be landfilled. (European Commission, 2015) Recently it has been understood that the Commission is proposing to ban landfills altogether and the Parliament aims to increase the recycling rate of municipal waste to 70% and packaging waste to 80%. The landfilling should not exceed 5% rate (Vosecký, 2017).

The final values that shall be achieved are as follows: by 2035, as previously planned, the recycling of municipal waste rate shall go up to 65%, given that by 2025 it should be up to 55% and 5 years later it should reach 60%. For packaging waste, a recycling rate of 70% is expected to be achieved by 2030. The specific values for the individual types of materials are shown in Figure 1. Besides, it is set that after 2035 less than 10% of all municipal waste shall be landfilled as intended in the year 2015 (European Commission, 2018).

In 2015, even though there were no exact figures, the Czech Government, in response to the adoption of the Circular Economy Package approved the new Waste Management Plan (WMP) for the period 2015–2024. This plan already counts on limiting the amount of mixed municipal waste and landfilling. Given that the exact values to be achieved are still not known today, it is not possible to say with certainty whether by fulfilling the national targets the Czech Republic had set, the requirements of the European Union can be met.

The Czech Waste Management Plan is divided into four parts: introduction, evaluation of the current state of waste management in the Czech Republic, and binding and indicative parts. The binding part is issued as a government order due to the possibility of legal enforceability. The binding part of the current Waste Management Plan is a part of the Government Decree No. 352/20014 Coll., On the Waste Management Plan of the Czech Republic for the period 2015–2024. Waste Management Plans of individual regions and the Waste Management Plans of individual cities follow the national Waste Management Plan.

The most important and the most striking objective, that the Czech Republic puts forward by 2024 is the landfill ban of municipal, recycling and reusable waste. Nevertheless, this step has only been legally enacted in the Government Order on the Waste Management Plan as the amendment to Act No. 185/2001 Coll., On Waste that would regulate it, despite several attempts to date, have not been adopted yet. However, measures are known

to achieve this goal. It is assumed that the fee for dumping the waste that will be banned after 2024 will increase. According to the existing Waste Act (Act no. 185/2001 Coll.), the actual standard fee for municipal and mixed waste is 500 CZK/t and 1700 CZK/t for dangerous waste per one calendar year. It is apparent that increasing this fee would result in increasing the fee for municipal waste paid by citizens and therefore they will try to recycle as much as possible in order to avoid that. The fundamental problem with landfill ban is the fact that it has not yet been solved how to proceed in case that the landfills will be banned after the year 2023 and the banned waste will continue to be landfilled there. It is also necessary to figure out how to prevent illegal landfills of this waste. With regards to landfill ban, one of the goals of the WMP 2015–2024 is above all the energy utilization of waste after the removal of the materials of use, hazardous components and biodegradable waste.

Other types of waste and goals that should be met in the year 2020 are also addressed in the binding part of the WMP. In the Czech Republic, the overall level of preparation for re-use and recycling should be increased to at least 50% by weight, for waste from plastic, paper, glass and metal originating in households, or for wastes which are similar to those wastes, but which are of different origin.

In the area of packaging waste, the recycling rate should increase to 70% by 2020. The specific percentages for each type of packaging waste are given in the following table (Table 1).

Tab. 1. Packaging recycling

Packaging waste	Recycling [%]	Overall recovery [%]
<i>Paper and cardboard</i>	75	
<i>Glass</i>	75	
<i>Plastic</i>	50	
<i>Metal</i>	55	
<i>Wooden</i>	15	
<i>Consumer sales</i>	50	55
Total	70	80

Source: Ministry of Environment, 2014, p. 108.

It is known that glass and metals can be recycled basically over and over again, so in the case that they are sorted out of the municipal waste, it should not be a problem to achieve the values mentioned in Table 1. Plastic packaging recycling is, however, quite problematic and not only in the conditions of the Czech Republic. The process of recycling plastic waste is resource-intensive, primarily for water and energy, but also finance, because recycling costs are high. A very important element of recycling is the process of collecting waste in a form that allows its further sorting and pre-treatment processes to produce a secondary raw material that is subsequently recycled. As a result of legislation, it is virtually impossible to meet the legislative targets of recycling and recovery without proper infrastructure and logistics of waste collection. A very important role in meeting the objectives in the field of municipal waste is played by consumer communication, which represents one of the key elements of influencing the citizens to handle their waste responsibly, i.e. so as to meet the objectives of recycling and recovery. As an example, residents sort their waste into containers for recycling or bring used batteries to take-back points, which could be, for example, points of sale of these batteries. None of that would have happened without effective and continual communication.

In the category of sorting electrical and electronic equipment waste, the aim is also to increase the level of sorting this waste and, consequently, the rate of recovery, recycling and preparation for re-use. In the Czech Republic, in accordance with EU legislation, legal and natural persons placing those products on the market are obliged to ensure their take back. Citizens also have the possibility to put small electrical appliances in special containers, but there are not enough of them in the Czech Republic. In this waste category, meeting the goals is partly set for August 2018. Individual target values will be stated in the next chapter (Table 3).

An important goal of the Waste Management Plan 2015–2024 is also reducing biodegradable waste that ends in landfills. The problem of sorting biodegradable waste lies primarily in the fact that citizens have only a few options to store this type of waste even though they are required to sort it from 2015 onwards.

In terms of the Czech Republic, the circular economy is also reflected in the Secondary Raw Materials Policy, which is a part of the Raw Material Policy of the Czech Republic. On 15th April 2014, the government approved the Secondary Raw Materials Policy as the Government Resolution No. 755. This is the first document of the Czech Republic, creating a strategic framework for the efficient use of secondary raw materials. Its slogan is "Waste conversion to resources". In the analysis, ten commodities and sources of secondary raw materials were formed on the basis of which the Policy was then prepared. These include metals, paper, plastics, glass, construction and demolition materials, energy by-products, end-of-life vehicles (wrecks), waste electrical and electronic equipment, used tires and waste rubber, waste batteries and accumulators.

The Policy sets out five strategic goals and sixteen measures. These goals are:

- 1) Increasing the self-sufficiency of the Czech Republic in raw material sources by replacing primary sources with secondary raw materials.

- 2) Promoting innovation securing the acquisition of secondary raw materials in a quality suitable for further use in industries.
- 3) Promoting the use of secondary raw materials as a tool for reducing the energy and material demands of industrial production while eliminating negative impacts on the environment and human health.
- 4) Supporting the education of qualified workers in the field of secondary raw materials as an endorsement of the competitiveness of the Czech Republic.
- 5) Updating the scope of the statistical survey for the processing of material accounts, enabling the mass balance of secondary raw materials to be processed in the Czech economy (Ministry of Industry and Trade of the Czech Republic, 2015).

The ability of the Czech Republic to meet the requirements of the Circular Economy Package and the Waste Management Plan 2015-2024

In order to determine whether the state is able to meet the waste recycling requirements, it is first and foremost necessary to take into account the very definition of the basic concepts of waste management, such as recycling, as defined by a specific state.

For a specific process of determining whether the Czech Republic is able to meet the requirements of the Waste Management Plan that are already set until 2024, it is necessary to use data from previous years. There are two sets of data available in the Czech Republic, collected by different institutions. One of them is the Czech Statistical Office and the second one, the Ministry of Industry and Trade of the Czech Republic. It is now being discussed that the data related to the environment should be collected by a single methodology.

As already stated above, the Czech Republic plans to put forward the so-called landfill ban of the communal, recyclable and recoverable waste by 2024. At present, it can be stated that dumping has a declining trend, but if the landfills are to be banned completely, dumping must be radically reduced. In 2016, according to EUROSTAT data, 50 per cent of waste was landfilled; ten years earlier, it was 77 per cent (2006) - see Table 2. In the past ten years, it has dropped by only 27 per cent, and it is now necessary to reduce dumping by a total of 50 per cent in the following six years. So if the Czech Republic does not implement significant changes in waste management, the criteria (< 10 %) of the European Union will not be met.

Tab. 2. Dumping in the Czech Republic in the years 2006 – 2016 [%]

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
77	75	75	73	68	65	56	56	56	53	50

Source: Eurostat, 2017.

Undoubtedly, alternatives to waste disposal are also needed in the context of diversion from landfill. This is mainly the energy recovery of waste in ZEVO (waste incineration plant, generally incineration plant), i.e. the production of electric and thermal energy. In the Czech Republic, there are four incineration plants: in Prague, Brno, Liberec and in Chotíkov u Plzně. The last facility, which is also the latest, have been a subject to many disputes and it has long been unsure of whether it will ever be possible to put it into operation. There are many opponents to new ZEVO in the Czech Republic. In particular, they are mostly eco-activists and locals who do not want similar facilities near their homes.

Nevertheless, the area of energy use of mixed municipal waste in ZEVO is supported by the state. Baránková (2013) found grounds for supporting the ZEVO system in her article, where she compared two similar cities, in regard of size and number of citizens (Ostrava and Brno), with a different approach to waste disposal (dumping vs ZEVO). The calculated economic indicators reached significantly different values in favour of the energy use of mixed municipal waste.

Straka (2018) tried to find out, using computer simulation, the volume of the environmental impact of waste incineration processes within a particular region. The aim was to find ways to reduce the impact on the environment of the combustion process in the Slovak Republic. The simulation results show that incineration during a one-year period produces about 15,266 tons of plastic and electrical components, and will release about 590,000 GJ of energy and about 199,000 tons of steam and 287 tons of other emissions with only 3 milligrams of dioxins.

In the field of packaging recycling, the Waste Management Plan sets the overall recycling rate at 70%. According to the Circular Economy Package, the rate is 70 per cent. In 2017, according to data from EKO-KOM, the total recycling rate was 74%. Figure no.1 shows that the Czech Republic has already met the objectives of the Waste Management Plan 2015–2024 both for the overall recycling of packaging waste and for each type of packaging material. At the same time, the Czech Republic already meets the EU requirements of the Circular Economy Package.

The Czech Republic's waste management strategy should be both motivating and realistic. It also should not burden Czech citizens or the industries any more than it burdens citizens and industries of other European

countries. The state should also actively develop and support tools that would help to meet the objectives of the future European legislation.

Kozel (2018) dealt with ways to motivate citizens to recycle. He sees potential in information technology and as the most attractive considers the use of RFID chips, thanks to which it is possible to see how full are individual waste containers. This way, it would be possible to eliminate situations when the containers are filled up, and citizens are therefore less willing to recycle. Zapletal (2017) emphasises the link between motivation and specific financial measures. As an incentive tool for businesses, he sets out a system of allowances that the heavy industrial enterprises in the EU face from the beginning of the millennium. This system has threats associated with the emission-trading obligation. Significant factors are the number of allowances granted to the business for free and the price of emissions for different types of permits.

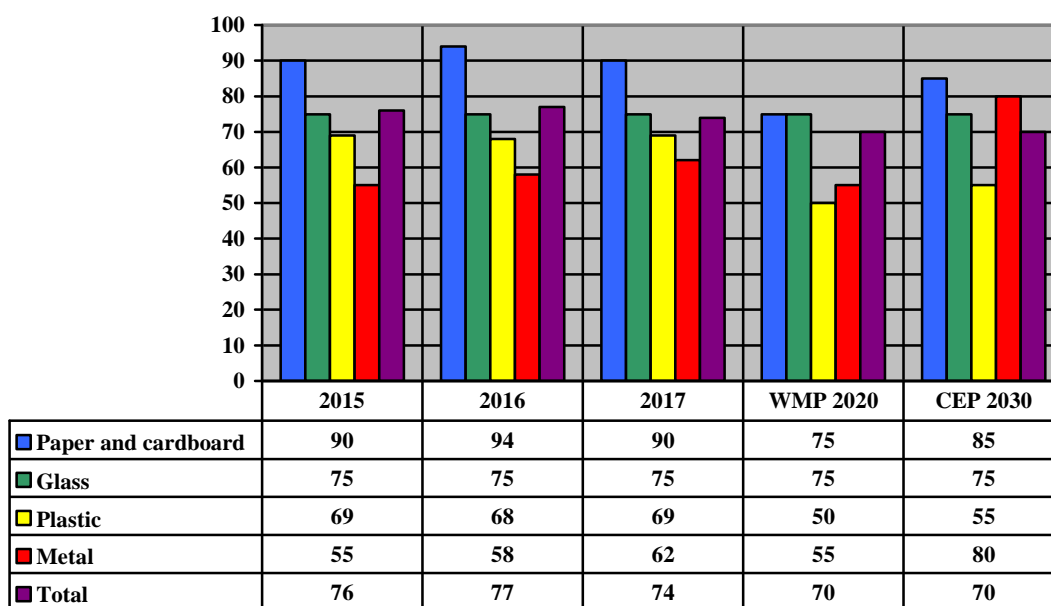


Fig. 1. Packaging recycling rate in 2015-2017 and values according to WMP and Circular Economy Package
WMP 2020 = Waste Management Plan 2015–2024; CEP 2030 = Circular Economy Package

Source: own processing according to the Ministry of Environment, 2014; EKO-KOM 2016, 2017, 2018 and European Commission, 2018.

Companies participating in the adoption of the Circular Economy Package in the Czech Republic

There are companies in the Czech Republic, which are trying to point out both: the issues of waste management and the circular economy. Probably the best-known waste company is the only authorized packaging company in the Czech Republic EKO-KOM, a.s. Company.

Industrial companies producing packaged goods in 1997 as a non-profit joint-stock company founded the EKO-KOM. The purpose of establishing EKO-KOM Company was to create one umbrella organization, which would provide the take-back of packaging and the utilization of waste from the packaging for its contractual partners, whereas the contractual partners are those entities who, according to Act No. 477/2001 Coll. are obligated to perform these two activities. The system, at present, includes more than 20,000 companies and more than 6,000 Czech municipalities. (EKO-KOM)

The scope of the company's activities lies not only with the above stated, but it also helps its clients with other issues related to waste management and especially it focuses on the field of awareness and education. Awareness and education are undoubtedly particularly important for citizens to realize the importance of recycling. Unless the citizens are able to sort their waste the best they can, the system of a circular economy cannot work effectively.

The EKO-KOM Company uses most of the media to educate the citizens. There are TV campaigns bearing the claim “Má to smysl, třídíte odpad” (It’s worth it, sort your waste”) pointing out the importance of recycling. The campaigns are extended to the online environment, specifically to several websites run by the Company. There are also Facebook and Instagram pages supporting the campaign.

Another company that addresses pretty much all of the target groups influenced by the impacts of the new legislation is the Institute of Circular Economy. This non-governmental organization, established in 2015, is dedicated to spreading ideas about the circular economy, both between businesses and government authorities, as well as citizens. The Institute organizes seminars, conferences and workshops to educate those interested in the

circular economy. For municipalities and their leadership that will indisputably also be affected by the adoption of the package, it annually organizes the Waste Management Conference, where it explains the benefits of the transition to the circular economy (Institute of Circular Economy).

The Impact of Adopting the Circular Economy Package

It is apparent from the previous text that the adoption of the Circular Economy Package at the level of the European Union and its subsequent incorporation into state legislation will have an impact on all the involved target groups, i.e.:

- Individual states,
- Their entrepreneurs and
- Their citizens.

At the state level, it is necessary to adopt such legislative measures so that Czech legislative is in line with those of the European ones. An amendment to Act No. 185/2001 Coll., On Waste (effective from 1 January 2018) was approved in 2017, however, from the point of view of the circular economy, there were no significant changes. Even though there were points on changes to the circular economy in the draft, the lobby finally won, and the proposals were not enforced (Drábková, 2017). However, as stated above, the Czech Republic must implement the Circular Economy Package into its legislation within 24 months of CEP's entry into the force.

In connection with the transition to the circular economy, it is essential that all target groups companies and institutions are involved. The government should adopt not only new legislation that is in line with the law of the European Union, but also create optimal conditions so the entire circular economy system can work efficiently. This includes especially removing all the obstacles related to the production of new products as well as the transfer of waste (resources) to others for further processing. For smooth transition to circular economy, it is also vital to create a special plan, i.e. so-called circular roadmap, which would provide a long-term concept involving the implementation of circular economy principles into legislation, finding key and priority areas, mapping the current situation and, above all, steps to be taken in individual phases (Drábková, 2017).

The Ministry of Industry and Trade is trying to promote the circular economy through various competitions. For example, at the beginning of this year, a nationwide competition called the "Transformation of waste to resources" took place, where production and construction enterprises, public administration of municipalities and towns, university students and colleges of secondary schools, vocational schools, elementary schools and facilities for leisure activities could participate (Ministry of Industry and Trade, 2017).

And it should be the production companies and enterprises placing the packaged products on the market that should eliminate the amount of waste. The Eco-design should become a trend as its main objective is to lower the impacts of products on the environment during the whole product life cycle. In the field of the circular economy, it is important that the products can be continually used even after the end of their life cycle. And that is precisely why it is appropriate to use materials that can be recycled or otherwise used while using technological procedures that do not prevent their further use. As far as packaging is concerned, it is also advisable to select such materials for their manufacture, which can be further utilised, and, in particular, it is important to consider whether it is necessary to use such quantities of packaging. These are in particular consumer packages, which are often totally unnecessary, as the goods are essentially stored in two packages (for example, perfumes). Supporting Eco-design is also one of the waste prevention objectives enshrined in Act No. 185/2001 Coll., On Waste. Under this law, Eco-design means systematic incorporation of environmental aspects into the design of the product in order to improve the environmental impact of the product throughout its life cycle.

The amendment to the Act no. 477/2001 Coll., On Packaging, which responds to the relevant EU Directive and came into effect on 1st January 2018, can be considered an innovation in packaging. Since this day, it is forbidden to provide a plastic bag to a consumer for free. Some of the retailers have already prepared for this regulation and are currently selling bags for a certain amount, or they have switched to paper bags or those that can be used repeatedly.

At the same time, it is necessary to realize that the adopted legislation for introducing the circular economy is also manifested outside the waste management and brings the need for new legislation in other areas. An example may be Act No. 181/2014 Coll. The Cyber Security Law, which regulates the rights and obligations of individuals and the powers of public authorities in cybersecurity. (Moravec, 2017) For example, heating plants produce, on the one hand, a significant amount of hazardous waste and are therefore directly affected by the fulfilment of EU (or CEP) conditions. On the other hand, the legislation of the circular economy is also reflected in the cybersecurity of businesses and carries the cost of implementing regulations in companies.

There is an increasing trend of recycling among citizens. It is even reported that in the overall recycling we are in second place in Europe - after Belgium (EKO-KOM, 2017). But, if we look at the amount of waste that could be sorted and is still in the mixed municipal waste, the citizens of the Czech Republic have still a lot to

learn. From this point of view, the awareness and education that are in the scope of activities of, for example, the EKO-KOM Company and the Institute of Circular Economy, are very important.

Lastly, Czech citizens very often do not realise how they recycle as other people do not as well, or they are not really thorough in doing so. Many citizens do not recycle at all as it seems of no significance to them. And some go to extremes such as littering, i.e. throwing away garbage anywhere.

In the Czech Republic, although Act No. 185/2001 Coll., On Waste obliges everyone to recycle, yet, there is currently no system to sanction those who breach it. However, the absence of such a system that to some extent commonly works in other European countries, limits the development of other forms of waste recovery and recycling. Particularly, when the state is planning the landfill ban, it is necessary to think about this problem and, in particular, in a suitable way, implement a system of sanctions for citizens. Many cities have been trying to motivate the citizens to sort their waste by reducing or cancelling the fee for municipal waste, but once again there must be a system that will be able to recognise whether the citizens actually do sort their waste.

Though, there are few cities in the Czech Republic that have been implementing systems to monitor recycling. They provide their citizens with special bar codes used to hold together or tie their waste and thus the municipality knows precisely how they recycle.

Examples of Good Practice in Waste Management in the Czech Republic

Nowadays, in connection with the transition to the circulatory economy, the so-called “Urban mining” is being discussed, which is the mining of valuable raw materials directly in the cities. The Smolo Ostrava waste company has been addressing this option. This company is trying to find new ways how to get raw materials. Since Ostrava was a heavily industrial area, there are a large number of old industrial buildings waiting for demolition. The Smolo Company sees them as sources of raw materials they can get and offer them further. For example, they can create a certified product from old buildings using crushers and screeners. These could be different fractions of aggregate, asphalt or reinforced concrete (Czech Waste Management Association, 2017).

Companies that are in waste collection business very often come across an issue of route planning. Such an issue belongs to the problems called TSP- Travelling Salesman Problem. These are computationally complex combinatorial tasks and, in addition, different local specifics such as one-way streets, different service capacities, and so on, shall be taken into consideration. The problem is also to convert map data into the format appropriate for these algorithms. This is why experts from two faculties at VŠB-TU Ostrava are now working on a project, the output of which will be the design of acceptable routes and their implementation into specialized maps, primarily for verifying the proposed methodology, secondary for individual partners from practice. Project co-workers work with several companies in the field of waste management (Kozel, 2014).

Another example of good practice is the IKEA Czech Republic, which has decided to introduce a system of furniture take back. The service called "Second Life" was launched in 2017 as a pilot project of one of Prague's stores. IKEA's customers have the opportunity to return furniture they do no longer want, simply taking a picture of it, uploading it to a website with a price they wish to sell it for. IKEA either agrees with the price or proposes its own, according to the degree of wear, and then negotiates with the customer the final take back. The customer then receives a voucher in the agreed amount to buy a new product in IKEA, and the company offers the furniture to other customers. The aim of this service is most of all, reducing waste (IKEA, 2017).

As a perfect example that the initiative in the field of the circular economy does not necessarily have to come from businesses, but may also come from citizens is the good practice at Palacký University in Olomouc (Univerzita Palackého v Olomouci, 2017). In 2016, an association Sustainable Palacký was founded aiming at lowering the amount of waste produced within the University grounds. Students who saw great potential in this field established the association. They, for example, placed the sorting bags of EKO-KOM Company into student's dormitories. Last year, students created the so-called Freeshop where not only students, who are leaving the dormitories, can leave the things they no longer need. And it also works the other way around – students who are moving in can come and take such things or buy them for a voluntary contribution. The Freeshop originated in response to a number of functional products that ended year after year in the garbage bin on the dormitories because students needed to get rid of them. Thanks to this initiative, things can keep serving their purpose.

In connection with the reduction of the amount of plastic waste, we can exemplify the good practice of the campaign "Dost bylo plastu" (“Done with Plastic”) realized by the Ministry of Environment of the Czech Republic. The campaign's principle is the conclusion of voluntary agreements between the Ministry of Environment and companies willing to commit themselves to reduce the consumption of plastics and disposable tableware at their premises. The idea is to create alternatives for customers that will not have environmental or wallet impacts. Among the well-known organizations involved in the project are: the Czech Railways, Bageterie Boulevard, UGO, Costa Coffee, Lidl Czech Republic, Czech University of Life Sciences, Starbucks, Benzina, Leo Express, CrossCafe, Ikea Czech Republic, Frutisimo, Relay, Hello or Mr. Baker (Ministry of Environment of the Czech Republic, 2018).

Conclusions

The adoption of the so-called Circular Economy Package at the EU level and the resulting obligations will affect all Member States, and the Czech Republic is no exception. The Circular Economy Package was adopted in 2015, but its specific form was not approved by the European Commission until 22 May 2018 and had entered into force on 4 July 2018.

The Circular Economy Package includes values for recycling and storage of municipal waste, which must be achieved by individual Member States by 2030 at the latest. The final values were approved together with the package in May 2018. Notwithstanding this, the Czech Republic reacted to the adopted Circular Economy Package already in 2015, when it adopted the new Waste Management Plan for 2015-2024. It contains several targets that the Czech Republic has to achieve in the area of waste management by 2024, i.e. six years before it will have to reach the European Union's standards.

The assessment, made by the authors, has shown that the objectives set out in the Waste Management Plan had been, in fact, already met at the time the new Waste Management Plan was issued. These include both packaging recycling and recycling, re-use and the use of waste electrical and electronic equipment. Why the goals are set, so that they are already greatly exceeded, remains a question. At the same time, however, we must not forget the balance of the economic level and the efficiency of the whole process.

The authors of this article, therefore, incline to think that there are two main problems in putting the new legislation into practice. This is mainly about the inconsistency of the methodology of data collection and a lack of a functional motivation system. Given that there is no single EU-wide guideline on how to collect data and make a variety of waste management calculations, objective results cannot be achieved. To ensure that all target groups affected by the new legislation are motivated to handle waste more efficiently, an adequate system must be put in place to penalize those, who do not comply with the legislation and, on the contrary, favour those who do comply and exceed their obligations.

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