

CIRCULAR ECONOMY – ONE OF THE MOST IMPORTANT CHALLENGES FOR THE EUROPEAN UNION

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Abstract

Purpose – The main aim of this article was to analyze and evaluate EU legislation concerning the concept of circular economy. Throughout the paper the author presents the main aims and challenges pertaining to the implementation, by the member states, of the directives implementing the concept of circular economy into the EU legal system by discussing the legislative steps necessary to take within the next years, on the basis of Polish waste management system.

Design/methodology/approach – Methodologically the present research focused on the legislation of European Union and some recent initiatives that had been undertaken by Poland and other EU Member States in the area of waste management.

Findings – Practical implementation of circular economy into the legal order of EU member state law remains one of the most fundamental, albeit complex challenges posed to the domestic legislators. A number of wide-ranging but extremely meticulous and well-thought actions are necessary for implementing the ambitious provisions of the amended directives regulating the waste management framework on the Community level. Worth mentioning have been, for example, solutions limiting the generation of waste, introducing improved systems for selective collection, and finally allowing wider-ranging reuse of the generated waste in subsequent manufacturing processes. The huge amount of the necessary changes will indubitably lead to the necessity of deep changes to the approach towards the waste management model, equally by the public administration bodies, the businesses and entities within the branch of waste management, as well as common citizens. Thus only such comprehensive approach shall actually provide implementation of the concept of circular economy in everyday life of the Europeans.

Research limitations/implications – The present paper has presented the main problem areas concerning the implementation of circular economy based on the Polish legal system. It is neither a wide nor a comprehensive analysis of the necessary modifications to all the normative acts; however, it is an attempt to encapsulate globally the main problem areas, which all of the member states implementing circular economy to their respective legal orders have to face.

Practical implications – Establishment of effective waste management system via implementation of circular economy concept within the next years remains a challenge for all of the European Union member states. Therefore the discussions within the present paper are added value due to presenting problem areas for the implementation of new Community regulations and due to discussing prospective legislative solutions within the abovementioned area.

Originality/Value – The present paper is an innovative attempt to encapsulate the main problem areas and to find the key challenges posed to the Community member states implementing the concept of circular economy. Throughout the paper, the author attempts to present the directions of the desired and necessary legislative changes for the implementation. Taking into consideration the current relevance and relative novelty of this research area this publication represents a substantive added value and might be a starting point for further, more comprehensive research.

Keywords: circular economy, waste management, recycling

Research type: research paper.

Introduction

Implementation of effective waste management is one of the key contemporary challenges faced by humanity. Creation of a suitable model for reducing the amount generated and reusing waste seems necessary to prevent global ecological disaster and ensure stable future for the generations to come.

The European Union as the Community of the most developed countries stands at the forefront of the effort towards cleaner world. For this purpose multiple legislative measures have been undertaken over the years, for the purpose of minimising the amount of waste generated and to ensure the highest possible level of recycling thereof within particular member states.

The latest solution emerging from this area is the so called concept of circular economy. This concept aims at implementing a model of economy where by using a given product, and therefore generating waste, the waste will be processed so as to become a useful material for further manufacturing process.

In order to implement this concept, on 22nd of May, 2018, the EU Council adopted a package of four directives introducing changes to the Union law regulating waste management. The changes to the Union law came into force on 4th of July, 2018; from then on two-year implementation period began for the new provisions of the directives into domestic law of member states. Therefore the main burden of implementing "circular economy" model into practice is actually put on the member states.

The present research paper focuses on discussing the main tenets of circular economy and presenting the implications of putting this concept into reality for the EU member states. Naturally, a respectable number of scientific works have been devoted to the concept itself and the impact of circular economy on particular sectors of the economic system, (e.g. Korhonen, Honkasalo, Seppälä 2018; Pomponi, Moncaster 2017, Hobson 2015; Murray, Skene, Haynes 2017.) Taking into consideration the volume and scope constraints of the present article, I would therefore like to focus on discussing circular economy model presented within the bodies of legal acts and strategy papers of the European Union. As such, a closer scrutiny shall concern but a snippet of problems related to the concept of circular economy and focus on its normative aspect and implementation challenges faced by the member states, waste management in particular.

The main goal of this article is identify and indicate main problem areas concerning the implementation of circular economy, which all of the member states have to face, based on the Polish legal system. To realize this aim I will analyze European legal acts and strategy papers and some recent initiatives that had been undertaken by Poland government in the area of waste management.

Concept of the Circular Economy – the key preliminaries

To begin discussing the challenges faced by European Union Member states concerning implementation of the circular economy over the coming years it is necessary to define the main tenets of this concept.

Putting it simply and rather succinctly, the circular economy should be defined as such a model of economy where a product's life cycle is not linear (produce, use, dispose), but cyclical, i.e. (produce, use, recover, re-use).

The beginning of real legislative actions towards implementation of this concept to the European legal order should be considered as the European Commission's communication of 2.12.2015, entitled "Closing the loop – An EU action plan for the circular economy". Therein,

the European Commission defined the four key sectors where actions are to be taken for completion of the abovementioned programme of the circular economy, which are:¹

- 1) Production;
- 2) Consumption;
- 3) Waste management; and
- 4) Secondary raw material market and water reuse.

In the present article, I shall mainly focus on the challenges relevant to two of the areas listed above, i.e. waste management and secondary raw material market; however, a short presentation of the key circular economy concepts of the other sectors is still of value.

Production sector. In its communication of 2.12.2015, the European Commission opens the discussion of particular sectors which have production steps, and indicates primarily the need of an adequate design phase and use of high-grade materials to ensure that the manufactured products be, first of all, more durable and easier to repair, upgrade or remanufacture, and secondly, allowing easier disassembly of these products in order to recover valuable materials and components during recovery and recycling processes.

Additionally, here the Commission also draws the attention to the need of adequate shaping of manufacturing processes, which should be designed and implemented to ensure effective resource use and not lead to the generation of excessive waste. In particular, the Commission emphasises here the so-called industrial symbiosis, which allows waste or by-products of one industry to become inputs for another. This idea reoccurs around the waste management sector discussion, especially end-of-waste procedure.

Consumption sector. On the topic of consumption, the Commission's communication mainly focuses on the necessity of appropriately making consumers aware of the actual product features and environmental impact, due to the fact that only an appropriately informed consumer is able to make a conscious purchasing decision.

Further, the Commission encourages the Member States to utilise drivers for use of economic instruments, such as taxation, to ensure that product prices reflect their real environmental production and use costs.

Another theme discussed is the adoption and effective enforcement of legal regulations concerning consumer protection against defective products, and where needed, ensuring the possibility of their repair paid for by the manufacturer. The Commission rightly notices, though, that the extent of product life cycle, especially concerning electronic goods, correlates closely with consumer rights' protection.

The final aspect concerning consumption pointed out by the Commission is the necessity of shaping policies by the respective Member States encouraging re-use and repair of products, thus preventing wastage.

Waste management sector. The third sector indicated by the Commission in the communication of 2.12.2015 is waste management. Detailed analysis of the relevant concerns, based on Polish legislation, will follow further in the present article. It is worth mentioning here though, that the Commission draws attention to the fact, that at present, only 40% of the waste generated in community households is being recycled; the recycling index reaches in some regions as high as 80%, while in others this is below 5%.

¹Communication 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, COM/2015/0614 final, [accessed 2019-05-15] <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0614>>.

In light of the above, the Commission has presented proposals for new recycling targets within the scope of landfilling of municipal waste and packaging waste, as well as dividing those targets into specific fractions, referring to packaging waste.

Another problem spotted by the Commission within this area is illegal waste shipments, both within the Union itself and outside its borders. Here it should be stated, as it was also noted by the Commission, that in 2014 the amended regulation concerning shipments of waste was ratified, therefore the main challenge posed here concerns effective execution thereof. In the Polish context it should be noted that the matter of cross-border waste shipments was widely publicised in mid 2018; in consequence, applicable domestic regulations were amended, to be exact, in the act of 29.06.2007 on cross-border waste shipments. This amendment led to full prohibition on waste import to Poland with the intention of disposal characterised as D1 to D15 in annex to directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 as well as prohibition of importing mixed municipal waste and municipal waste processing. It is important to note that the latter of the abovementioned prohibitions is not limited to waste disposal processes, therefore it covers mixed municipal waste and waste generated during their processing imported to Poland for recovery processing purposes. The sole exception to this prohibition is import of separately collected waste destined for recycling.¹²

Such restrictive regulations together with the procedure of their ratification raises some suspicions over their compliance with Regulation (EU) No 660/2014. Notably, these suspicions were partially raised by commentators based on previous legal status, when the list of waste prohibited from entry to Poland was included in the body of the corresponding Ministry of the Environment regulation (Jerzmański, 2014).³

Within the body of the analysed communication of 02.12.2015 the Commission also emphasises the need to homogenise technological standards concerning waste processing devices by stating that it is necessary to support their voluntary certification systems, especially those which process certain key waste types (for example, used up electronic devices or plastic waste) in order to ensure high-quality recycling.

The last aspect of waste management discussed by the Commission is underlining that where waste generation and recycling is unavoidable the emphasis should be placed on recovering their energy. As indicated by the Commission, by taking into account a number of environmental conditions and following waste hierarchy procedures, the energy recovered from waste may play a key role and synergise with Community climate and energy policy.

Sector of the market for secondary raw materials and water reuse. Within the fourth sector indicated by the European Commission in its communication of 2.12.2015 it has been underlined that above all, in the circular economy, materials that can be recycled are to be injected back into the economy as new raw materials, which may replace the 'original raw resources' obtained from traditional natural resources.

In light of the above, the end of waste procedure gains special importance, which should be employed in practice by public authorities more widely, to ensure adequate 'supply' of new raw materials. What is also important is the functioning of quality and technical norms regulating, among others, the level of impurities or usefulness of given waste for high quality recycling. This problem has been publicly debated for at least a few years. Notably, at the

¹Regulation (EU) No 660/2014 of the European Parliament and of the Council of 15 May 2014 amending Regulation (EC) No 1013/2006 on shipments of waste. [2014] OJ L189/135.

² Act of 29.06.2007 on cross-border waste shipments (consolidated text published in Journal of Laws 2018 item 296, as amended).

³ J. Jerzmański, Act on cross-border shipments of waste, Comment, 2014 [accessed 2019-05-15], <<https://sip.lex.pl/#/commentary/587366712/164152>>.

present moment, there are only three technical regulations, on the Community level, concerning the criteria for loss of waste status by particular fractions, those are:

1) Council Regulation (EU) No 333/2011 of 31 March 2011 establishing criteria determining when certain types of scrap metal cease to be waste under Directive 2008/98/EC of the European Parliament and of the Council,¹

2) Commission Regulation (EU) No 1179/2012 of 10 December 2012 establishing criteria determining when glass cullet ceases to be waste under Directive 2008/98/EC of the European Parliament and of the Council,²

3) Commission Regulation (EU) No 715/2013 of 25 July 2013 establishing criteria determining when copper scrap ceases to be waste under Directive 2008/98/EC of the European Parliament and of the Council.³

The last aspect, slightly overshadowed by the other discussions on circular economy is water reuse. Within the Communication, the Commission, in fact, only limits its commentary to stating that it is necessary to implement adequate measures for effective water use and reuse purified waste under safe and economical conditions. To put those measures forward, the European Commission initialised in May of 2018 work on Regulation of the European Parliament and of the Council on minimum requirements for water reuse.⁴

Legal acts for implementation of circular economy

Having discussed the circular economy concept itself, the main normative acts for implementation of this idea to the legal order of the Member states should be indicated. In order to meet the abovementioned Commission Communication of 2.12.2015's demands, Community bodies created particular legislative solutions, which after the working stage in the European Parliament were formed as legislative proposals for amending four directives on broadly speaking, the area of waste management, which comprise the so-called 'circular economy package'.

On the basis of the above, in Spring 2018, legislative work within the scope of implementing circular economy on Community level were about to be finished, as their finalisation required only positive decision of the Council. **Eventually, on 22.05.2018 the Council of European Union accepted, without amends, a package of four directives, which are:**

1) Directive (EU) 2018/849 of the European Parliament and of the Council of 30 May 2018 amending Directives 2000/53/EC on end-of-life vehicles, 2006/66/EC on batteries and

¹Council Regulation (EU) No 333/2011 of 31 March 2011 establishing criteria determining when certain types of scrap metal cease to be waste under Directive 2008/98/EC of the European Parliament and of the Council. [2011] OJ L 94/2.

²Commission Regulation (EU) No 1179/2012 of 10 December 2012 establishing criteria determining when glass cullet ceases to be waste under Directive 2008/98/EC of the European Parliament and of the Council. [2012] OJ L 337/31.

³Commission Regulation (EU) No 715/2013 of 25 July 2013 establishing criteria determining when copper scrap ceases to be waste under Directive 2008/98/EC of the European Parliament and of the Council. [2013] OJ L 201/14.

⁴Proposal for a regulation of the European Parliament and of the Council on minimum requirements for water reuse, COM(2018) 337 final, [accessed 2019-05-15] <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018PC0337>>.

accumulators and waste batteries and accumulators, and 2012/19/EU on waste electrical and electronic equipment,¹

2) Directive (EU) 2018/850 of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste,²

3) Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste,³

4) Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste.⁴

In practice, acceptance of the above normative acts means that the burden of legislative work concerning implementation of the circular economy was moved to the Member States, which thus faced the challenge of implementation of the provisions of the directives listed above to their respective legal orders.

It is important to note that the timeframe for implementation of this process is not long, as it is only **two years, counting from the date the abovementioned directives enter into force, i.e. 4.07.2018**. This timeframe might, especially in the Polish context, be really problematic, taking into consideration the rather evident tendency, over the last years, of Polish legislators implementing Community regulations at the very last moment, especially concerning environmental protection. Such actions therefore often lead to errors in shaping particular legal instruments, and consequently to inadequate implementation of legal provisions of the directives, as it has been perfectly exemplified by CJEU decision on Poland's incorrect implementation of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.⁵

Naturally, it should be taken into consideration that the adopted package of directives – similarly as is the case of all Community legal acts of this category – leaves substantial leeway for Member states in terms of choice of measures for completion of the new regulations. It appears though that through analysing the main objectives and premises of the changes in question, and considering the difficulties that have arisen so far in Polish debate on the waste management sector, certain predictions might be justified, to indicate main problem areas connected to implementation of the premises of the circular economy to the Polish legal order. Due to the constraints of the current paper, I would prefer to focus on an area, which in my opinion, both on the Community and Polish level, will prove the greatest hindrances for practical implementation, namely separate collection and recycling of municipal waste.

¹ Directive (EU) 2018/849 of the European Parliament and of the Council of 30 May 2018 amending Directives 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. [2018] OJ L 150/93.

² Directive (EU) 2018/850 of the European Parliament and of the Council of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste. [2018] OJ L 150/100.

³ Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste. [2018] OJ L 150/109.

⁴ Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste. [2018] OJ L 150/141.

⁵ Case C-648/13, European Commission v Republic of Poland [2016] OJ C 335/2.

Separate collection of municipal waste - the greatest difficulty of the circular economy

I am substantiating my view on the difficulty of implementing effective separate waste collection systems and of attaining municipal waste recycling targets based on both Polish experiences surrounding implementation of solutions within this area and on a report presented by the European Commission on 24.09.2018 on implementation of Community regulations concerning waste, including an early warning system for Member States in danger of not attaining 2020 target within the scope of preparation for municipal waste re-use/recycling.¹

In this document, the European Commission clearly stated that even though municipal waste constitutes only 10% of total waste generation within the EU, they constitute one of the most difficult waste flows to manage, due to its diverse composition, a large number of waste generators and dispersal of responsibility. According to the data provided in 2016, the average municipal waste generated by Europeans was 480 kg per capita, out of which 46% was recycled or composted. Bearing in mind, as already presented in the communication of the Commission of 2.12.2015, that there is a large discrepancy between particular regions, and some regions reach recycling target as high as 80%, while others below 5%.

Before continuing to detailed analysis of the hindrances concerning effective implementation of regulations within the areas in question, the legal acts regulating the concepts of municipal waste recycling targets and separate waste collection on Community level have to be provided.

The provisions of Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste entering into force introduced within this area rather substantial changes, whose implementation to legal orders of Member states, especially Polish legal system, might prove to be difficult in practice.

Above all, amendment of Article 11 (2) of Directive 2008/98/EC should be highlighted, as its new form provides that:

a) by 2020, preparation for reuse and recycling of waste materials, at least such as paper, plastics, glass, originating in households and from other places, if possible, given that those waste flows be similar to household waste, shall increase to 50% by weight minimum;

[...]

c) by 2025, preparation for reuse and recycling of municipal waste shall increase to 55% by weight minimum;

d) by 2030, preparation for reuse and recycling of municipal waste shall increase to 60% by weight minimum; and

e) by 2035, preparation for reuse and recycling of municipal waste shall increase to 65% by weight minimum.

Amendment of this provision via the entering into force of Directive (EU) 2018/851 was carried out by appending letters c to e, which include ambitious municipal waste recycling targets for the following years up to as far as 2035. Before the circular economy implementation amendment, the time constraints of Article 11(2) reached only the year 2020. Considering the pessimistic conclusions of the Commission report of 24.09.2018 concerning

¹ Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of EU waste legislation, including the early warning report for Member States at risk of missing the 2020 preparation for re-use/recycling target on municipal waste, COM/2018/656 final, [accessed 2019-05-15] <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2018:656:FIN>>

Member State attainment of 50% municipal recycling targets in 2020, which will be analysed more in depth below, the newly appended targets might prove overly optimistic.

In order to complete the above-mentioned targets of Article 10(2) and Article 11(1) of Directive 2008/98/EC the Member States shall collect separately paper, metal, plastics and glass, and starting 1.01.2025, textiles. Additionally, Article 22(1) of Directive 2008/98/EC should be highlighted here, where Member States shall ensure, by 31.12.2023 at the latest, that bio-waste be source separated and recycled or separately collected and not mixed with other types of waste.

Article 10(3) of Directive 2008/98/EC includes conditions for derogations from the abovementioned separate waste collection regulations. According to these provisions, decisions not to collect waste separately might be made based on the following factors:

a) collection of certain mixed waste does not impact their recyclability, reusability, or other recovery processes according to Article 4, and the obtained output material of these processes is of comparable quality to that of separately collected waste;

b) separate collection does not provide the best possible outcome for the environment, when considering total environmental impact;

c) separate collection is technically infeasible, when waste collection best practices are taken into account;

d) separate collection would lead to disproportionately high economical costs, taking into account the negative impact costs of collection and treatment of mixed waste on the environment and human health, feasibility of improvement of collection and treatment effectiveness, secondary raw material sale income, and adhering to the polluter-pays principle and extended producer responsibility.

Considering further analysis of the difficulties of implementing separate municipal waste collection system within the Polish context, letter d is especially relevant to the enumeration above, which refers to economic criteria. However, it should be noted that due to the fact that this provision is an exception to the principle of separate collection, the listed criteria for derogations are to be understood as narrowly as possible and used with extreme care, always having conducted adequate environmental and economic analyses.

Transferring the abovementioned Community regulations to the Polish legislative environment it should be noted that the main Polish act regulating the matter of municipal waste management, in a systemic manner, is the Act of 13.09.1996 on maintaining cleanliness and order in municipalities. Notably within the context of further discussion, according to the provisions of the Polish legal system, the parties responsible for management of municipal waste flows are, by rule, municipalities which are base local government entities. According to the Polish system, the central administration empowers lowest level local government entities to carry out local tasks, so as to ensure optimal use of resources for municipal waste management and to ensure as close control as possible, on the local level, over the waste flow.¹

It is evident that the act of 13.09.1996 is a rather antiquated normative act, which has been amended several dozen times. Unfortunately, it led to substantial loss of legibility and clarity. The key problem is the marking of the provisions, which over the course of consequent amendments became truly illegible - suffice to say that within the act an article marked as Article 9 *zaa* exists. Consequently, creation of a brand new legislative act regulating the matter of cleanliness and order within municipalities, including municipal waste management, seems

¹ Act of 13.09.1996 on maintaining cleanliness and order in municipalities (consolidated text published in Journal of Laws 2018 item 1454, as amended).

desirable. As of today, no such project is being prepared or worked on; nevertheless, legislative work is in progress on another amendment to the Act of 13.09.1996.

Provisions for implementation to the Polish legal order of amendments found in Directive (EU) 2018/851 are actually found within the draft law currently worked on by the Council of Ministers – an amendment to the Act of 13.09.1996 on maintaining cleanliness and order in municipalities and to some other acts. The provisions of the draft law transfer the recycling targets of Article 11(2) of Directive 2008/98/EC directly to the Polish legal system. Notably, the provisions of the draft law include certain limitations of separate textile collections. According to the draft law makers' intentions, a source separated collection of this fraction, for example via additional type of textile-specific bins is not to be established within the Polish law. The presented draft law only includes provisions for forcing separate municipal waste collection facilities to accept textile waste, starting 1.01.2025. These are, according to the Polish system, particular facilities ran by municipalities, which allow the citizens to donate source inseparable or difficult to separate waste, such as, among others, bulky waste, tyres, or waste electrical and electronic equipment. Implementation of this solution within the context of textiles might however negatively impact recycling targets and reusability of this waste fraction, as in order to collect them separately, the citizens will be forced to go to a separate municipal waste collection facility, which more often than not is rather remote from their place of residence. For instance, in the ca. 500.000 citizen city of Poznan, there are barely two such facilities, located in the outskirts of the city. Therefore such implementation raises concerns over fulfilling the necessity of separate textile collection and appears not to comply with the aims and provisions put forward by Directive (EU) 2018/851. However, even proposing these changes met with negative reception of some Polish municipalities as too organisationally and budgetary taxing.¹²

The negative approach of municipalities to systemic changes to separate municipal waste collection is an aftermath of a pervasive approach among local governments towards separate municipal waste collection which is based on only two fractions, which are so-called dry and wet fractions. The former comprised mixed glass, plastic, metal and paper waste; the latter comprised all of the remaining fractions, including bio-waste. This approach was meant to be suppressed with Ministry of Environment regulation of 29.12.2016 on exact method of separate collection of specific waste fractions. The explanatory statement to this bill claims that the bill was necessary to implement due to the fact that municipalities, acting on their own behalf, organised separate municipal waste collection systems, often establishing wet and dry waste divisions. Such separate waste collection method does not provide a high-grade raw material.³⁴

Additionally, the Minister of Environment, writing the body of the aforementioned act, highlighted that one of the ex ante conditions for collection of European funds for waste management investments according to the new EU financial perspective for 2014-2020 is an undertaking by Poland of actions towards meeting the targets defined by the EU directive

¹ Draft law on amendments to the Act of 13.09.1996 on maintaining cleanliness and order in municipalities and to some other acts, n. UD332, [accessed 2019-05-15] <<https://legislacja.rcl.gov.pl/projekt/12315504/>>

² Raport of public consultations on Draft law on amendments to the Act of 13.09.1996 on maintaining cleanliness and order in municipalities and to some other acts, n. UD332, p. 10-11, [accessed 2019-05-15] <<https://legislacja.rcl.gov.pl/docs//2/12315504/12530780/12530783/dokument376714.docx>>.

³ Ministry of Environment regulation of 29.12.2016 on exact method of separate collection of specific waste fractions (Journal of Laws 2017 item 19).

⁴ The explanatory statement to Ministry of Environment regulation of 29.12.2016 on exact method of separate collection of specific waste fractions, [accessed 2019-05-15] <<https://legislacja.rcl.gov.pl/docs//515/12287427/12364447/dokument248711.pdf>>

which are, for instance, recycling and reuse preparation indices for the following municipal waste fractions: paper, metal, plastics and glass.

In consequence of the above, the regulation of 29.12.2016 introduced the necessity of organising, by the municipalities, separate municipal waste collection divided into 5 fractions, which are

- 1) paper;
- 2) glass;
- 3) metals;
- 4) plastics;
- 5) biodegradable waste, especially bio-waste.

It should be noted here that transitional provisions of the regulation might cause adjustment of municipal selective collection systems to be implemented, in specific cases, as late as 2021. According to Paragraph 6(3) of the regulation, agreements on municipal collection and management of municipal waste, even noncompliant with the regulation's separate collection standards, remain valid until 30.06.2021.

All of the factors above result in problems in some Polish municipalities with attaining municipal waste recycling and reuse targets, at a level well below the 50% forecast for 2020. According to the Annex to the regulation of the Minister of the Environment of 14.12.2016 on recycling levels, preparation for reuse and recovery by other methods of municipal waste fraction, the level of recycling and preparation for re-use of municipal waste required for municipalities in 2017 was 20% and in 2018 - 30%. The most up-to-date data published by the Ministry of the Environment in October 2018 do indeed show that 96% of municipalities in Poland reached the required in 2017 level of waste recycling. However, it should be noted that this is a level more than two times lower than expected to be achieved in 2020, and municipalities are already voicing that the level of 50% is unattainable in such short time constraints. It is worth mentioning here one of the comments made to the aforementioned project UD 332 by Stowarzyszenie Gmin i Powiatów Wielkopolski [Wielkopolska Association of Municipalities and Poviats], in which the entity stated that obtaining the levels of recycling and re-use in the amount indicated in the bill (i.e. in accordance with Directive 2008/98 /EC) is impossible to implement. Most municipal waste is subject to disposal processes. These wastes are the heaviest to be managed, while the fractions separated from municipal waste selectively collected will never account for 50% of the total municipal waste, and only after they have been fully cleaned, some of them are actually subjected to the recycling process.¹²³

In addition, Najwyższa Izba Kontroli [the Supreme Audit Office] in the information of April 2018 on the results of the audit entitled 'Implementation of municipal tasks in the scope of municipal waste management', indicates that 'Poland may not reach by the end of 2020, the recycling level of 50% set by the Community regulations. In order to avoid fines being imposed on this account, the municipalities should intensify the remedial actions and constantly monitor the achieved recycling rates.'¹⁴

¹ Minister of the Environment regulation of 14.12.2016 on recycling levels, preparation for reuse and recovery by other methods of municipal waste fraction (Journal of Laws 2016 item 2167).

² *W Polsce w 2017 r. większość gmin osiągnęła wymagany poziom recyklingu odpadów*, [accessed 2019-05-15] <<https://www.portalsamorzadowy.pl/gospodarka-komunalna/ms-w-polsce-w-2017-r-wiekszosc-gmin-osiagnela-wymagany-poziom-recyklingu-odpadow,114377.html>>.

³ Raport of public consultations on Draft law on amendments to the Act of 13.09.1996 on maintaining cleanliness and order in municipalities and to some other acts, p. 20, [accessed 2019-05-15] <<https://legislacja.rcl.gov.pl/docs//2/12315504/12530780/12530783/dokument376714.docx>>.

⁴ The results of the audit 'Implementation of municipal tasks in the scope of municipal waste management', p. 9, [accessed 2019-05-15] <<https://www.nik.gov.pl/plik/id,17226,vp,19793.pdf>>.

The European Commission is of similar view, in terms of Poland's failure to achieve the 50% recycling target and certain use of municipal waste in 2020, as stated in the abovementioned report of 24.09.2018, specifically the accompanying report under the early warning system regarding Poland, the Commission stated that 'based on the analysis of the current and binding policy in the field of waste management and taking into account the results of Poland so far, it is considered that there is a risk that Poland will not reach the 2020 target for the preparation of 50% of municipal waste for re-use / recycling'. Among the reasons for this, the Commission not only draws attention to the fact that Poland has not introduced a fully effective system of separate collection of recyclable waste, but also the lack of economic incentives for household waste segregation. In addition, the Commission pointed to concerns about the quality of waste data, undermining the credibility of high recycling rates reported by Poland to Eurostat. The problem of reliability of data obtained in Poland regarding recycling rates is a separate topic worthy of a separate scientific study, it is worth noting here though that it was also noted in the NIK report mentioned above, whose authors stated that "in 50% of communes covered by the audit were revealed unreliable report data, in particular data on recycling rates. [...] The reliability of reporting data remains at a low level".¹²

All of the above show that the implementation of standards for the separate collection and recycling of municipal waste in Poland in accordance with the provisions of Directive (EU) 2018/851 can be a very difficult task in practice. Poland has a problem achieving already much lower standards of recycling resulting from the provisions of domestic law and collecting reliable data in this area, while the deadline of 2020 is approaching inexorably. As it seems, this situation stems from, on the one hand, too late an implementation on the domestic level of the obligation to conduct separate collection of municipal waste divided into five factions, and on the other hand, the shortcomings of environmental education and public awareness of the need for waste segregation.

Focusing on the abovementioned Polish problems, it cannot be overlooked that difficulties in reaching the 50% level of recycling and re-use of municipal waste in 2020 according to the Commission report of 24.09.2018 may also apply to 13 other Member States. These are Bulgaria, Estonia, Greece, Spain, Croatia, Cyprus, Latvia, Hungary, Malta, Portugal, Romania, Slovakia and Finland.

The Commission therefore concedes that half of the European Union Member States may be in danger of not reaching appropriate levels of recycling in 2020, and thus the prospect of completing the provisions of the circular economy, within this scope, is actually jeopardized. It also shows perfectly that the disparity in the levels of municipal waste recycling achieved by individual member states already signalled in the Commission's communication of 2.12.2015 has not been reduced yet.

¹Commission staff working document The Early Warning report for Poland Accompanying the document Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of EU waste legislation, including the Early Warning report for compliance with Article 11(2)a of Directive 2008/98/EC, SWD/2018/426 final, [accessed 2019-05-15], <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52018SC0426>

²The results of the audit 'Implementation of municipal tasks in the scope of municipal waste management', p. 12, [accessed 2019-05-15] <<https://www.nik.gov.pl/plik/id,17226,vp,19793.pdf>>.

Conclusion

Concluding the discussion, it is indubitable that implementation of the circular economy enables reduction of generated waste and increase of waste reuse indices, and therefore might actually improve natural environment conditions. This concept adopts a holistic approach towards the entire life cycle of a product and also emphasises innovative solutions, equally within the sectors of production and consumption, and especially, waste management and functioning of secondary raw material market.

However, the conducted analysis on separate municipal waste collection and recycling using Poland as an example shows that practical implementation of the provisions and targets of the circular economy might prove problematic. Therefore during the process of implementing the provisions completing the concept of the circular economy, on the one hand, effective mechanisms for control and monitoring fulfilment of the Community targets by the Member States are necessary on the Community level, on the other hand, sensible Community institution support of the Member States in implementation of domestic legal instruments is also required. Adjusting economic systems to the circular economy shall prove to be a grave challenge over the following years, especially within the context of the less economically developed Member states, such as East-Central Europe countries.

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