Legal Analysis

European Federation for Waste Management and Environmental Services (FEAD)
Brussels/Belgium

of the sustainability of waste incineration for energy recovery ("waste to energy") under Regulation 2020/852 of the European Parliament and of the Council establishing a framework for sustainable investment

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A. Background and audit engagement

I. Background

On July 12, 2020 the Regulation 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (hereinafter: Taxonomy Regulation)[1] entered into force.

The aim of the Regulation is to bring Environmental, Social and Governance (ESG) considerations at the heart of the financial system in order to support the transformation of the EU economy into a greener and more resilient circular system and to make investments more sustainable when taking into account greenhouse gas emissions, resource depletion and working conditions. ESG considerations are to be integrated into the investment and advisory process in all areas. In particular, all financial market participants commissioned by third parties to make investment decisions on their behalf should integrate ESG considerations into their internal processes and inform their clients in this respect. In order to provide economic operators and investors with clarity in their investment decisions as to which activities are considered sustainable, the Regulation sets out uniform criteria for determining whether an economic activity is environmentally sustainable, cf. Article 1 (1) Taxonomy Regulation. It also establishes a procedure whereby a multi-stakeholder platform is used to create a uniform EU classification system based on a set of technical assessment criteria to determine which economic activities are considered sustainable.[2]

An investment is environmentally sustainable according to Article 2 No. 1 Taxonomy Regulation if it funds on one or several economic activities that qualify as

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1 OJ L 198/13 of June 22, 2020.

2 Cf. EU Commission, Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, 24.5.2018, COM(2018) 353 final, p. 1.

environmentally sustainable according to this Regulation; according to Article 3 Taxonomy Regulation,[3] an economic activity is considered environmentally sustainable if it

(a) makes a substantial contribution to one or more of the environmental objectives set out in Article 9 in accordance with Articles 10 to 16;

(b) does not significantly harm any of the environmental objectives set out in Article 9 in accordance with Article 17;

(c) is carried out in compliance with the minimum safeguards laid down in Article 18; and

(d) complies with technical screening criteria that have been established by the Commission in accordance with Articles 10 (3), 11 (3), 12 (2), 13 (2), 14 (2) and 15 (2).

On the basis of these criteria, Member States and the Union shall determine whether an economic activity is to be classified as environmentally sustainable for the purposes of any measure setting out requirements for financial market participants or issuers of financial products or corporate bonds that are made available as 'environmentally sustainable', Article 4.

The environmental objectives under Article 9 are

(a) Climate change mitigation;

(b) climate change adaption;

(c) the sustainable use and protection of water and marine resources;

d) the transition to a circular economy;

(e) pollution prevention and control;

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3 All articles without other indication are those of the Taxonomy Regulation.

f) the protection and restoration of biodiversity and ecosystems.

For each of the environmental objectives referred to in Article 9, the requirements that economic activities must fulfil in order to make a significant contribution to achieving the environmental objective in question are set out in detail in Articles 10 to 15. According to Article 16, under certain conditions economic activities which enable other activities directly to make a significant contribution to one or more of the environmental objectives, also contribute to achieving those objectives.

Article 17 states under which conditions an economic activity constitutes a significant harm to the environmental objectives set out in Article 9.

As one of the environmental objectives, the Taxonomy Regulation also mentions the transition to a circular economy in Article 9 d).

The circular economy is defined in Article 2 (1) as '*an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy*'. According to Article 2 (8), waste hierarchy means the waste hierarchy as laid down in Article 4 of Directive 2008/98/EC on waste (hereinafter referred to as the Waste Framework Directive - WFD). It establishes the following order of priorities, which shall apply EU Member States' legislation and policies on waste management: '*(a) prevention; (b) preparing for re-use; (c) recycling; (d) other recovery, e.g. energy recovery; and (e) disposal*'.

Article 13 (1) lists several aspects that characterise an economic activity making a substantial contribution to the environmental objective of the transition to a circular economy. According to Article 13 (1) j), these include when the economic activity '*minimises the incineration of waste and avoids the disposal of waste, including landfilling, in accordance with the principles of the waste hierarchy*'.

According to Article 17 (1) d), a significant harm of the environmental objective of the circular economy - including waste prevention and recycling - occurs inter alia if the activity in question *'leads to a significant increase in the generation, incineration or*

disposal of waste, with the exception of the incineration of non-recyclable hazardous waste'.

However, the term waste incineration is not defined in the Taxonomy Regulation. In waste management in general and in particular under the WFD, a distinction is made between the incineration of waste for the purpose of disposal - cf. Article 3 No. 19 WFD in conjunction with Annex I, D 10 'Incineration on land' and D 11 'Incineration at sea' - and incineration for energy recovery - cf. Article 3 No. 15 WFD in conjunction with Annex II, R1 'Use principally as a fuel or other means to generate energy'[4]. This is also reflected in the waste hierarchy according to Article 4 WFD, insofar as incineration of waste for energy recovery is a recovery measure at the 4th level of the hierarchy, whereas incineration for disposal is a disposal measure at the 5th level of the hierarchy.

II. Audit Engagement

Energy recovery from waste, i.e. the incineration of waste for energy recovery ('waste to energy'), is an essential possibility of waste recovery and plays an important role in waste management in the European Union.[5] The national associations of the private waste management industry as members of the European Federation of waste management and environmental services (Fédération Européenne des Activités du Déchet – hereinafter: 'FEAD') represent a number of companies that operate all waste management infrastructures and services, including incineration plants in the Member States of the European Union.

The position of waste incineration for energy recovery ('waste to energy') in the context of the provisions of the Taxonomy Regulation is not clear, i.e. it is not apparent whether waste incineration for energy recovery can be considered a sustainable economic activity or an unsustainable economic activity. FEAD has therefore requested

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4 However, incineration in incineration facilities dedicated to the processing of municipal solid waste shall only constitute recovery if the incineration plants have a certain level of energy efficiency, which results from footnote 1 of Annex II.

5 German Federal Environment Agency, Energy generation from waste - status and potentials in Germany until 2030, UBA Texte 51/2018 (hereinafter: German Federal Environmental Agency, UBA Texte 51/2018), p. 12.

clarification of this question in order to provide legal certainty for the waste management companies concerned.

In the context of this expert opinion, a legal analysis and interpretation of the Taxonomy Regulation will be carried out with regard to the question of whether waste incineration for energy recovery (please note: waste incineration for energy recovery (waste to energy) is hereafter defined as waste incineration which fulfils the R1-criterion of Annex II of the WFD and is therefore considered to be a recovery operation at the 4th level of the waste hierarchy) can be considered a sustainable economic activity under the Regulation or whether it is considered unsustainable. For this purpose, the Regulation will be interpreted grammatically, historically, systematically and teleologically, taking into account in particular the European waste law and political framework in which waste incineration for energy recovery takes place.

B. Summary

The Taxonomy Regulation mentions the transition to a circular economy as an environmental objective. In this context, the Taxonomy Regulation refers to waste incineration; an activity which, according to the waste hierarchy, leads as far as possible to a reduction of waste incineration and avoidance of waste disposal, serves the environmental objective of the transition to a circular economy according to Article 13 (1) j), and can therefore be considered sustainable in the sense of Article 3. On the other hand, according to Article 17 (1) d) ii), an activity that leads to a significant increase in the generation, incineration or disposal of waste - except for the incineration of non-recyclable hazardous waste - significantly harms the circular economy and is therefore to be considered as an unsustainable activity.

The Taxonomy Regulation does not specify the term ‘waste incineration’. However, from a legal point of view, the incineration of waste can be considered both as waste recovery, especially if it is used for energy recovery (in order to produce heat/steam and/or electricity), and as waste disposal if no significant amount of energy is obtained and the incineration primarily serves to reduce the volume of waste. The different meaning of waste incineration suggests that it can also have different impacts on the circular economy and must therefore be assessed differently in terms of sustainability.

I. Result of the grammatical interpretation

However, the grammatical interpretation of Articles 13 and 17, i.e. the interpretation based solely on the wording, does not provide clarity in this respect. The term waste incineration is used in an undifferentiated way, so that it could initially be assumed that waste incineration is generally critical for the transition to a circular economy and may perhaps not be sustainable. From the requirement to reduce waste incineration on the one hand and the more far-reaching requirement to avoid waste disposal on the other, as well as from the explicit reference to the waste hierarchy in Article 4 WFD, the conclusion can be drawn that a distinction between waste incineration for the purpose of recovery and waste incineration for the purpose of disposal is quite possible and that waste incineration which does not serve the purpose of disposal is considered less disadvantageous by the legislator and may possibly also be considered to be beneficial to the circular economy. Finally, the wording of the Regulation refers only indirectly to waste incineration and does not address the impact of waste incineration itself on the circular economy. The regulation basically only regulates the sustainability of economic activities that reduce waste incineration or lead to an increase in waste incineration. In the end, the grammatical interpretation does not provide any clarity, since the wording supports both the assumption that waste incineration is generally considered to be in contradiction with the circular economy and thus not sustainable, and the assumption that a distinction must be made between waste incineration for disposal and waste incineration for energy recovery and that the latter cannot per se be considered as being in contradiction to the circular economy and thus being not sustainable.

II. Result of the historical interpretation

A similarly unsatisfactory result is achieved by the historical interpretation, i.e. the interpretation according to the will of the legislator, which can be deduced from the legislative materials. Indeed, during the legislative process the legislators, Parliament and the Council, have made changes to the regulations on waste incineration, which indicate that, when assessing waste incineration with regard to the circular economy, a distinction must be made between waste incineration for disposal and waste incineration for energy recovery. It could also be concluded from these amendments that

certain types and/or forms of waste incineration - such as the incineration of waste for energy recovery - could, in the view of the legislators, be regarded as being in line with the environmental objective of the transition to a circular economy and thus as environmentally sustainable. However, the legislative materials do not contain any justifications and explanations for the amendments in question, so that these presumptions and interpretations are not legally certain. Therefore, it cannot be established with sufficient legal certainty that the legislators intend to differentiate between different forms of waste incineration and that the incineration for energy recovery can possibly be regarded as sustainable.

III. Result of the systematic interpretation

On the contrary, the systematic interpretation of the regulations on waste incineration is much more useful. Here, the content of the law is derived from the relationship of the specific provision to other provisions of the same law and to other relevant laws. Thus, the provisions of Articles 13 (1) j) and 17 (1) d) ii) on waste incineration must be seen both in the overall context of the Taxonomy Regulation and in relation to the other provisions of the Regulation, as well as in the overall context of EU waste legislation, and in particular in relation to the WFD and the waste hierarchy.

The systematic interpretation of the provisions on waste incineration in the (overall) context of the Taxonomy Regulation shows that the incineration of waste for energy recovery (according to the R1-criterion of Annex II WFD) actually contributes to achieving the environmental objective of 'transition to a circular economy' pursuant to Article 9 d), as it preserves natural resources. In the course of waste incineration, metals can be recovered from the incineration ashes, gypsum can be obtained from flue gas cleaning, and the incineration ashes themselves can be used as a substitute building material. The systematic interpretation also shows that waste incineration for energy recovery (in order to produce electricity and/or heat/steam) can also contribute to achieving the environmental objectives of 'climate protection' under Article 9 a) and 'prevention and reduction of pollution' under Article 9 e). It can contribute to climate protection by reducing CO2 emissions in relation to fossil fuel based production of electricity and/or heat/steam, as the incineration of biogenic waste, which accounts for up to 50% of mixed municipal waste incinerated, is considered to be

climate-neutral. It also contributes to the reduction of environmental pollution by removing the pollutants contained in waste from the material cycle and by reducing the emission of heavy metals such as arsenic, cadmium and dioxins, compared to conventional production of electricity and/or heat/steam.

In particular, the waste hierarchy under the WFD indicates that waste incineration is to be considered in a differentiated manner and that waste incineration for energy recovery can certainly be considered sustainable. The waste hierarchy is the 'cornerstone of European waste policies and legislation' and the leading principle of waste and recycling management. Insofar as waste incineration is in line with the waste hierarchy, it serves the circular economy and is not contrary to the other environmental objectives of the Taxonomy Regulation, since a measure that complies with the hierarchy is the best environmental option. Waste incineration can be classified at different levels of the waste hierarchy (recycling - recovery - disposal). In addition, the WFD and the waste hierarchy require that the treatment option for waste is chosen which best serves the protection of the environment and human health and that furthermore the choice of the treatment option is also subject to technical feasibility and economic reasonableness, so that deviations from the hierarchy are possible and may be necessary. Therefore, it cannot be stated in a general and universally valid manner that waste incineration and especially waste incineration for energy recovery is not in line with the circular economy. In addition, Member States have a wide discretion in determining the most appropriate treatment option for waste. This discretion would be undermined by the general classification of waste incineration (for energy recovery) as not being in line with the circular economy and thus not being sustainable.

When assessing waste incineration under the Taxonomy Regulation, the principle of so-called self-sufficiency in waste disposal under Article 16 WFD must also be taken into account. According to this, the Member States are obliged to maintain an adequate network of installations for the treatment of their municipal waste, whereby the legislator obviously assumes that these installations are primarily waste incineration plants and that mixed municipal waste is usually incinerated for energy recovery according to the ideas of the European legislator. It would be contrary to the legal obligation of the Member States to create and maintain sufficient capacity for the treatment - i.e. in particular for the incineration - of their waste for disposal and mixed

municipal waste if the incineration (for recovery) of (municipal) waste under the Taxonomy Regulation were to be generally regarded as contrary to the circular economy and therefore as unsustainable. This would cause problems for the Member States or the institutions and companies operating the installations in terms of financing the installations and thus hinder the fulfilment of the obligation under Article 16 (1) WFD - i.e. the implementation of the principle of self-sufficiency.

For this reason, Articles 13 and 17 of the Taxonomy Regulation must be interpreted in respect of the principle self-sufficiency under Article 16 WFD in such a way that waste incineration must be viewed in a differentiated manner and that incineration, in particular incineration for energy recovery (in order to produce electricity and/or heat/steam), can certainly be regarded as sustainable within the meaning of Article 3 of the Taxonomy Regulation.

IV. Result of the teleological interpretation

The teleological interpretation, in which the content of a law is determined by reference to the objectives it pursues, is closely related to the systematic interpretation, in the context of which it has been possible to demonstrate the extent to which waste incineration complies with the objectives of the Taxonomy Regulation. In this respect, the teleological interpretation also leads to the conclusion that waste incineration for energy recovery can be considered sustainable.

Thus, after interpreting the provisions of the Taxonomy Regulation on waste incineration, it must be concluded that waste incineration must be viewed in a differentiated manner, that a distinction must be made between incineration for disposal and incineration for energy recovery and that incineration for energy recovery, if it complies with the requirements of the waste hierarchy, does not in fact contradict with the environmental objectives of the Taxonomy Regulation and in particular with the circular economy. Therefore, also the teleological interpretation leads to the conclusion that waste incineration for energy recovery can be regarded as sustainable pursuant to Article 3.

C. Analysis

When interpreting provisions of Union law, the methods familiar from the national legal systems are applied in principle, i.e. interpretation according to the wording (grammatical interpretation - see I.), interpretation based on the will of the legislator (historical interpretation - see II.), interpretation according to the embedding of the individual law provision in the overall context (systematic interpretation - see III.) and interpretation according to the meaning and purpose of the law provision (teleological interpretation - see IV.).[6]

I. Grammatical interpretation

The grammatical interpretation is of only secondary importance in Union law, since the different language versions are of equal importance and, in particular, secondary legislation often differs considerably between the different language versions.[7]

The question arises whether it can be inferred from the wording what position waste incineration for energy recovery ('waste to energy') occupies under the Taxonomy Regulation and whether it is to be considered sustainable or not.

1. Waste incineration as an economic activity contrary to the circular economy

Article 13 (1) j) states that an economic activity serves the environmental objective of the circular economy if it *'minimises the incineration of waste and avoids the disposal of waste, including landfilling, in accordance with the principles of the waste hierarchy'*. According to Article 17 (1) d) an activity constitutes a significant harm of the environmental objective of the circular economy, including waste prevention and recycling, if it *'leads to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste'*.

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6 *Wegener*/Calliess/Ruffert, EUV/AEUV, 5th edition 2016, Art. 19, marginal no. 13 et seq.

7 Wegener, ibid., marginal no. 13.

According to this, waste incineration seems to be in contradiction to the circular economy. However, it is not clear how the term waste incineration is to be understood within the meaning of the regulation.

2. Unclear and undifferentiated concept of waste incineration

The term waste incineration is not defined in the Taxonomy Regulation. Since the term incineration on which the Taxonomy Regulation is based is not specifically defined, it can either cover all types and forms of waste incineration or only specific types - a distinction can thus be made according to the purpose of the incineration, i.e. between incineration for disposal and incineration for (energy) recovery, cf. Article 3 No. 19 WFD in conjunction with Annex I, D 10 and D 11 and Article 3 No. 15 WFD in connection with Annex II, R1. Also, a distinction can be made according to the type of waste to be incinerated, i.e. between the incineration of hazardous and non-hazardous waste.

Articles 13 and 17 do not differentiate between the different types of waste incineration with a view to disposal or recovery. In the English language version Articles 13 and 17 refer to incineration of waste in general; the same applies to the French language version (‘incinération des déchets’) and the German language version (‘Abfallverbrennung’).

Accordingly, it must initially be assumed that incineration in general, without distinguishing between incineration for recovery and incineration for disposal, is contrary to the circular economy. Incineration for energy recovery would therefore not be sustainable.

3. Differentiation between incineration for recovery and incineration for disposal according to the syntax of Article 13 (1) j)

One indication that the Taxonomy Regulation does indeed distinguish between waste incineration for disposal and waste incineration for energy recovery and that the latter is not generally incompatible with the circular economy, is the wording of Article 13 (1) j), according to which an activity is sustainable if it ‘*minimises*’ waste incineration and ‘*avoids*’ waste disposal, including landfilling.

It is noticeable, however, that a linguistic distinction is made between the two half-sentences. While waste incineration should be ‘minimised’, waste disposal including landfilling should be ‘avoided’. The wording therefore distinguishes between waste incineration, which should only be minimised, and waste disposal, which should be avoided. The legislator has thus made it clear in language that incineration is not the same as disposal.

However, since waste incineration is to be ‘minimised’, this could initially indicate that waste incineration for energy recovery cannot be considered a contribution to the circular economy either.

Though, the use of the verb ‘minimise’ in relation to waste incineration as opposed to ‘avoid’ in relation to disposal could mean that the legislator considers waste incineration to be useful to a certain extent. The linguistic arrangement opens up scope for interpretation to the effect that waste incineration, unlike waste disposal, is not seen as completely and under any circumstances as being in contradiction to the circular economy - otherwise it, too, would have to be avoided - but can at least make a contribution to the circular economy to a certain extent or in a certain form and can thus be assigned a certain environmentally sustainable value. Anyway, disposal and incineration are obviously assessed differently in terms of their contribution to the circular economy, and incineration is obviously viewed more positively than disposal, since the aim is only to minimise it and not to avoid it completely.

This interpretation is also supported by the German language version. There, it reads ‘minimizes waste incineration if possible’ (‘Abfallverbrennung möglichst verringert’). This also reflects the fact that waste incineration should not be reduced in every case, but only "if possible". Conversely, this can also be understood to mean that incineration may be necessary and cannot be avoided, e.g. because it is not (or no longer) possible to use the waste for other purposes, or because incineration for energy recovery proves to be more beneficial to man and the environment in a life cycle assessment "overall view". The use of the word "if possible" should therefore be understood as a mitigation of the negative connotation of waste incineration caused by the term "minimise" and in this respect opens up the possibility of classifying waste incineration for energy recovery as a contribution to the transition to a closed-loop economy.

As the term waste incineration is not defined, it seems possible to interpret the distinction made by the legislator as meaning that waste incineration should be minimised to the extent that it does not contribute to the circular economy. On the other hand, waste incineration that makes a contribution to the circular economy should be maintained.

However, it is not possible to make a clear and legally certain statement based on the syntax of Article 13 (1) j).

4. Differentiation between incineration for recovery and incineration for disposal by reference to waste hierarchy in Article 13 (1) j)

A further point of reference for assessing whether, according to the wording of the Taxonomy Regulation, waste incineration in general can be regarded as contrary to the circular economy and thus as unsustainable, or whether a distinction should be made between waste incineration for disposal and waste incineration for energy recovery could be the reference to the waste hierarchy in Article 13 (1) j).

The statement that an economic activity makes a significant contribution to the transition to a circular economy if it minimises waste incineration and avoids waste disposal is supplemented by the addition of the words '*in accordance with the principles of the waste hierarchy*'. It is clear from the definition in Article 2 No. 8 that this is the waste hierarchy according to Article 4 WFD.

The waste hierarchy distinguishes between recovery operations according to the 4th level of the hierarchy and disposal operations according to the 5th level of the hierarchy. Waste incineration can represent both: waste recovery, cf. Article 3 No. WFD in conjunction with Annex II, R1 *'Use principally as a fuel or other means to generate energy'*, as well as a waste disposal, cf. Article 3 No. 19 WFD in conjunction with Annex I, D 10 'Incineration on land' and D 11 'Incineration at sea'.

The Commission has also noted that the incineration of waste encompasses '*very different waste treatment operations, ranging from 'disposal' and 'recovery' to 'recycling'. For example, processes such as anaerobic digestion which result in the production of a biogas and of a digestate are regarded by EU waste legislation as a recycling operation. On the other hand, waste incineration with limited energy*

recovery is regarded as disposal.'[8] Waste incineration for energy recovery is thus higher in the waste hierarchy than waste incineration, which can only be regarded as disposal due to the absence of sufficient energy efficiency of the incineration plant.

Thus, the reference to the waste hierarchy of Article 4 WFD in Article 13 (1) j) is an indication that the term waste incineration should not be understood in a general and undifferentiated manner when assessing the contribution of an activity to the transition to a circular economy, but that a distinction must be made in the assessment between incineration for disposal and incineration for energy recovery. Incineration for recovery may be considered to have a positive effect on the circular economy.

5. Classification of waste incineration in general as a harm to the circular economy pursuant to Article 17 (1) d) ii)

Article 17 (1) d) ii) clarifies that an activity significantly affects the circular economy if it *'leads to a significant increase in (...) incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste*'.

According to the wording incineration in general is contrasted to disposal in general ('or'), so that incineration for energy recovery is apparently covered by the incineration concept in Article 17 (1) d) ii) and can therefore be regarded as impairing the circular economy.

However, Article 17 (1) also contains a limitation, similar to the reference to the waste hierarchy in Article 13 (1) j): According to Article 17 (1), an economic *activity 'taking into account the life cycle of the products and services provided by an economic activity, including evidence from existing life-cycle assessments'* is considered to significantly harm the circular economy if it leads to a significant increase in waste incineration.

According to the wording of Article 17 (1) d) ii), it therefore cannot be assumed without examining the life cycle that the circular economy is harmed by waste incineration. The effects the reference to the life-cycle concept has on the assessment of waste

[8] European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 4.

incineration as an impairment of the circular economy must be clarified as part of the systematic and teleological interpretation (for more details, see III. and IV.).

6. No evaluation of the waste incineration itself

Finally, it should be noted that the wording of the Regulation does not in fact make any statement about the sustainability of waste incineration itself.

Both, Article 13 (1) j) and Article 17 (1) d) ii) do not, according to their wording, refer directly and immediately to the waste incineration activity itself. They do not state that 'the waste incineration' would not contribute to the transition to a circular economy (Article 13 (1) j)) or that 'the waste incineration' is considered to significantly harm the circular economy (Article 17 (1) lit. d) ii)). The Regulation only targets activities that reduce waste incineration (Article 13 (1) j)) or lead to an increase in waste incineration (Article 17 (1) d) ii)). It therefore actually only refers to economic activities upstream of waste incineration and only makes a statement about the sustainability of these (upstream) activities, but not about the sustainability of the waste incineration itself.

This is particularly apparent from the wording of Article 17 (1): according to this, the '*life cycle of the products and services provided by an economic activity (...)*' must be taken into account when assessing whether an economic activity significantly harms one of the environmental objectives set out in Article 9. Accordingly, the Regulation appears to be aimed primarily at economic activities in the manufacturing and service sectors. This impression is also reinforced by the statements in recital 28 of the Regulation. It is explained that *'an economic activity can contribute substantially to the environmental objective of transitioning to a circular economy in several ways. It can, for example, increase the durability, reparability, upgradability and reusability of products, or can reduce the use of resources through the design and choice of materials, facilitating repurposing, disassembly and deconstruction in the buildings and construction sector, in particular to reduce the use of building materials and promote the reuse of building materials. It can also contribute substantially to the environmental objective of transitioning to a circular economy by developing 'product-as-a-service' business models and circular value chains, with the aim of keeping products, components and materials at their highest utility and value for as long as*

possible.' However, waste incineration itself does not provide a product whose life cycle could be taken into account, nor should it be considered as a service. It is difficult to subsume it under any of the activities mentioned above.

It is therefore questionable whether a statement on the sustainability of the waste incineration activity itself - whether it is waste incineration for disposal or waste incineration for energy recovery – can be made at all on the basis of the Regulation.

7. Interim result of the grammatical interpretation

The grammatical interpretation of the Taxonomy Regulation turns out to be of little avail. It appears that a clear distinction between the different types of waste incineration and a differentiated assessment regarding sustainability is missing. The wording provides indications for both: that waste incineration is generally considered to be in contradiction to the circular economy and thus to be unsustainable on the one hand, and on the other hand that a distinction must be made between waste incineration for disposal and waste incineration for energy recovery, whereas the latter cannot per se be considered to be in contradiction to the circular economy and unsustainable.

According to the wording, due to the lack of a definition and the undifferentiated use of the term waste incineration, one could first of all assume that waste incineration in general, irrespective of its purpose - with the exception of the incineration of non-recyclable hazardous waste, cf. Article 17 (1) d) ii) - is in contradiction with the circular economy and thus could not be considered a sustainable activity pursuant to Article 3 a) and b).

Nevertheless, the requirement to minimise waste incineration on the one hand and the more far-reaching requirement to avoid waste disposal on the other hand, as well as the explicit reference to the waste hierarchy of Article 4 WFD, allow the conclusion that a distinction can indeed be made between waste incineration for the purpose of recovery and waste incineration for the purpose of disposal, and that waste incineration that does not serve the purpose of disposal is considered less disadvantageous by the legislator and can possibly also be considered to be beneficial to the circular economy.

Finally, the wording of the Regulation refers only indirectly to waste incineration and does not address the impact of waste incineration itself on the circular economy. The Regulation basically only regulates the sustainability of economic activities that reduce waste incineration or lead to an increase in waste incineration.

In the light of all the foregoing, the grammatical interpretation does not provide a clear answer to the question whether waste incineration for energy recovery is to be classified as unsustainable within the meaning of the Regulation.

II. Historical interpretation

Just like grammatical interpretation, historical interpretation, which is based on the will of the legislator, is of little importance in Union law compared with the interpretation of national law. This is due to the fact that, due to the special compromise and negotiation character of the European legislative process and the often not very extensive and detailed and in part not freely accessible legislative material, it is difficult to determine a uniform historical will of the legislator.[9] In fact, legislative proposals are usually only briefly and generally justified by the Commission when they are submitted at the beginning. The amendments introduced in the course of the parliamentary legislative procedure, as well as amendments by the Council, are only explained to a limit extent and then only very briefly, so that the intentions behind them and the purpose they pursue are often not clear.

This also applies to the provisions on waste incineration in the Taxonomy Regulation. Although changes have been made in the legislative procedure to the provisions relating to waste incineration, no reasons have been given for these changes. For example, in the course of the legislative procedure regarding waste incineration, the reference to '*avoidance*' of waste incineration as one of the possibilities to significantly contribute to the transition to a circular economy was replaced by a '*minimisation*' of waste incineration. In addition, a reference to the principles of the waste hierarchy has been added to Article 13 and removed from Article 17 (1) d). Furthermore, the principle of '*prevention of significant harm to environmental objectives*' in Article 17 (1) d) has

9 *Wegener*/Calliess/Ruffert, EUV/AEUV, 5th edition 2016, Art. 19, marginal no. 14.

been supplemented by an exception for the incineration of non-recyclable hazardous waste.

1. No comments from the Commission on waste incineration schemes

The provisions of the Taxonomy Regulation on waste incineration in Article 13 (1) j) and Article 17 (1) d) ii) were already contained in a slightly different form in the EU Commission's proposal. The provisions of Article 13 (1) j) were regulated analogously in Article 9 (1) i). According to this, *'an economic activity shall be considered to contribute substantially to the transition to a circular economy and waste prevention and recycling where that activity contributes substantially to that environmental objective through any of the following means:*

(...)

(i) avoiding incineration and disposal of waste'.

The provision in Article 17 (1) d) ii) was originally found in Article 12 d) of the Commissions' proposal. Accordingly, '*for the purposes of Article 3 (b), an economic activity shall be considered as significantly harming: [...] (d) circular economy and waste prevention and recycling, where that activity leads to significant inefficiencies in the use of materials in one or more stages of the life-cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products; or where that activity leads to a significant increase in the generation, incineration or disposal of waste*'.

In the explanatory memorandum to its proposal for the Regulation, the Commission has not made any reference to the law provisions on waste incineration in Articles 9 and 12. However, the Commission's answers to Frequently Asked Questions about the work of the European Commission and the Technical Expert Group on Sustainable Finance on the EU Taxonomy & EU Green Bond Standard[10] (FAQ EU Taxonomy & EU Green Bond Standard) provide an indication that the Commission considers waste incineration in general - with the exception of the incineration of non-recyclable

[10] Reference: https://ec.europa.eu/info/files/200610-sustainable-finance-teg-taxonomy-green-bond-standard-faq_en.

hazardous waste - to be incompatible with the development of a circular economy. The Commission states that the Taxonomy Regulation stipulates that minimising incineration is one of the means to make a substantial contribution to the circular economy and considers that an activity that leads to a significant increase in waste incineration does 'significant harm' to the circular economy. Hence, such an activity cannot qualify as 'environmentally sustainable' under the Taxonomy Regulation. The only exception to this principle is incineration of non-recyclable hazardous waste, introduced as part of the political agreement between the co-legislators; this exception does not, however, cover incineration of non-recyclable, non-hazardous waste.[11]

2. Change from 'avoidance' of waste incineration to 'minimisation' of waste incineration in Article 13 (1) j)

However, the history of the origin of Article 13 (1) j) provides strong indications that the legislators, the European Parliament and the Council, view waste incineration in a much more differentiated manner than the EU Commission and that the Parliament and the Council do not generally and universally regard waste incineration as contrary to the circular economy - and thus as unsustainable.

While the EU Commission's draft stated that an economic activity makes a significant contribution to the transition to a circular economy, including waste prevention and recycling, if waste incineration and disposal are avoided[12], this provision has been significantly amended by the Council: following the Presidency compromise text for a mandate for negotiations with the European Parliament, an economic activity shall be considered to contribute substantially to the transition to a more circular economy, including waste prevention and recycling, if it leads to '*minimising incineration and avoiding disposal (including landfilling) of waste, in accordance with the principles of the waste hierarchy as set out in Article 4 of Directive 2008/98/EC*'[13]. According to the Council's ideas, an economic activity does not have to completely avoid waste

[11] FAQ EU Taxonomy & EU Green Bond Standard, p. 13; Reference: https://ec.europa.eu/info/files/200610-sustainable-finance-teg-taxonomy-green-bond-standard-faq_en.

[12] EU Commission, Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, 24.5.2018, COM(2018) 353 final, Art. 9 (1) i).

[13] Presidency compromise text for a mandate for negotiations with the European Parliament of 23.09.2019, ST 12360 2019 ADD 1, Art. 9 (1) i).

incineration in order to make a significant contribution to the transition to a circular economy, but it is sufficient if waste incineration is minimised by the economic activity. Waste disposal, on the other hand, must still be avoided in order for the economic activity in question to make a significant contribution to the transition to a circular economy. This Council compromise proposal on Article 9 (1) i) has then been incorporated almost literally as Article 13 (1) j) in the final version of the Regulation.

With the amendment, the legislator seems to have deliberately opted for a distinction between incineration and disposal. In doing so, it also expresses that waste incineration may not be avoidable ('if possible' in the German version) and that it is therefore not excluded that it can contribute to the circular economy; otherwise the differentiation would not make sense.

The fact that this distinction has been subsequently inserted by the legislator attaches particular importance to it: the legislator thus clearly distinguishes itself from the Commission which, with or in its proposal takes a more critical view of waste incineration as a whole.

In this respect, the historical development could indicate that incineration cannot be considered completely or in any form as detrimental to the transition to a circular economy. However, this cannot be established with final (legal) certainty, since the recitals of the Regulation and the Presidency compromise text for a mandate for negotiations with the European Parliament do not provide any information on this and the reasons and motivations of the legislator can therefore only be speculated.

3. Reference to the principles of waste hierarchy

a) Inclusion of a reference to the waste hierarchy in Article 13

In Article 13 (1) j) the legislator added the words '*in accordance with the principles of the waste hierarchy*' during the legislative procedure to the statement that an economic activity makes a significant contribution to the transition to a circular economy if it minimises waste incineration and avoids waste disposal, including landfilling.

This addition was not included in the original draft of the EU Commission. [14] Both the Council and Parliament included this addition at first reading.[15]

Therefore, there is indeed some evidence that the legislator is also interested in the differentiations with regard to waste incineration resulting from the waste hierarchy. Moreover, the addition of the reference to the principles of the waste hierarchy could be seen as an expression of the fact that the legislator recognises the waste hierarchy as a central pillar of the circular economy and, by making this reference, implicitly wants to convey the assessment that activities that are in line with the waste hierarchy contribute to the circular economy.

However, the background to this addition is not explained in the recitals of the Regulation or in the European Parliament's resolution or the Council's compromise text for negotiations with the European Parliament, so that also the intentions leading to this amendment can only be presumed, too.

b) No inclusion of a reference to the waste hierarchy in Article 17

In the first reading, the Council had also provided for a reference to the principles of the waste hierarchy to be added to the provisions on the harm to environmental objectives in Article 17 (in the first reading still Article 12). According to the Council's compromise text, an economic activity shall be considered as significantly harming the transition to a circular economy if '*that activity leads to a significant increase in the generation, incineration or disposal (including landfilling) of waste in deviation from priorities of the waste hierarchy set out in Article 4 of Directive 2008/98/EC*'.[16] However, Parliament had not provided for such a reference in Article 12 d) (now

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[14] Proposal for a Regulation of the European Parliament and of the Council establishing a framework for facilitating sustainable investment, 24.05.2018, COM(2018) 353 final, Art. 9 (1) i).

[15] Presidency compromise text for a mandate for negotiations with the European Parliament of 23.09.2019, ST 12360 2019 ADD 1, Art. 9 (1) i); European Parliament legislative resolution of 28 March 2019 on the proposal for a regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment (P8_TA-PROV(2019)0325), amendment 45.

[16] Presidency compromise text for a mandate for negotiations with the European Parliament of 23.09.2019, ST 12360 2019 ADD 1, Art. 12 d).

Article 17 (1) d) ii)).[17] In the Council's common position of 16.04.2020, which was adopted by the European Parliament at second reading without further amendments, the reference was then no longer included.[18]

The final omission of the reference to the waste hierarchy in Article 17 (1) lit. d) ii) could be understood to mean that, in the view of the legislator, the significant increase in the generation, incineration or disposal of waste - with the exception of the incineration of non-recyclable hazardous waste - must always, i.e. irrespective of whether its implementation corresponds to the waste hierarchy or not, be regarded as a significant harm to the environmental objective of the circular economy. If this interpretation is taken as a basis and if the term incineration is interpreted to include waste incineration for energy recovery in order to produce electricity and/or heat/steam, this would mean that waste incineration for energy recovery in accordance with the R1-criterion of Annex II WFD would also always have to be classified as a harm to the environmental objective of the circular economy, irrespective of its position in the waste hierarchy.

But neither the Council's proposed insertion nor the ultimate omission of the reference to the waste hierarchy in Article 17 (1) d) ii) is justified in the recitals of the Regulation, the Council compromise proposal or the Parliament's resolution. Consequently, one can only speculate about the relevant motivations and considerations.

However, an interpretation of the omission of a reference to the waste hierarchy in Article 17 to the effect that waste incineration for energy recovery, irrespective of its position in the waste hierarchy, would always have to be classified as a harm to the environmental objective of the circular economy, appears doubtful with regard to Article 13 (1) j), as it would lead to a contradiction of assessment within the Regulation:

While Article 17 provides a negative definition of what is to be regarded as a harm to the circular economy, Article 13 issues a positive definition of what shall be considered as a contribution to the transition to a circular economy. Though, compliance with the

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17 European Parliament legislative resolution of 28 March 2019 on the proposal for a regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment (P8_TA-PROV(2019)0325), amendments 48 and 101.

18 Council Common Position of 16.04.2020, 5639/2/20 REV 2, Art. 12 (1) d) ii).

principles of the waste hierarchy cannot, on the one hand, be seen as a positive contribution to the transition to the circular economy as intended by the legislator, as expressed by the inclusion of the reference in the text of the Regulation (Art. 13), and, at the same time, be completely disregarded when assessing what is to be considered as detrimental to the achievement of the objective (Art. 17). With regard to activities having an impact on the circular economy, this would mean that an activity, provided that it complies with the principles of the waste hierarchy, could be regarded as making a significant contribution to the circular economy pursuant Art. 13 and at the same time, irrespective of the waste hierarchy, the same activity could cause significant harm to the environmental objective pursuant Art. 17.

The interplay between the reference in Article 13 and the omission of the reference in Article 17 also indicates that the legislator seems to assume a certain interaction between Article 13 and Article 17. A simultaneous mention of the principles of the waste hierarchy is not necessary because in determining what has an adverse effect under Article 17, account must also be taken of what is beneficial under Article 13.

Based on the historical development of the text of the Regulation, it can therefore be assumed that types of waste treatment, provided they are in line with the principles of the waste hierarchy, cannot be considered harmful under Article 17.

4. Addition of the exemption for the incineration of non-recyclable hazardous waste in Article 17 (1) d) ii)

The exception for non-recyclable hazardous waste in Article 17 was also not included in the Commission proposal[19] and was added by the legislators in the course of the legislative process[20]. This again reflects a tendency on behalf of the legislators not to regard incineration as harmful in every respect.

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[19] Cf. EU Commission, Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, 24.5.2018, COM(2018) 353 final, Art. 12 d).

[20] FAQ EU Taxonomy & EU Green Bond Standard, p. 13; reference: https://ec.europa.eu/info/files/200610-sustainable-finance-teg-taxonomy-green-bond-standard-faq_en.

However, the fact that an exemption was granted only for a very specific type of waste could be interpreted as meaning that all other waste treatment measures mentioned and all other types of waste have to be assessed undifferentiated, i.e. no privileged position can be given to waste incineration for energy recovery as a subcategory of waste incineration. This is the view of the EU Commission[21], but the Commission does not express this view in the legislative materials, but only in a collection of frequently asked questions about the work of the European Commission and the Technical Expert Group on Sustainable Finance on the EU Taxonomy & EU Green Bond Standard. The Commission also provides no evidence that this would indeed be the understanding or the will of the legislators. In fact, there are no explanations or indications from the legislators themselves in the legislative materials with regard to this provision, that would suggest that the legislators implicitly intended to classify the incineration of all other waste and in particular also the incineration of waste for recovery in the form of energy generation as unsustainable.

5. Interim result on historical interpretation

Due to the lack of explanations and justifications in the legislative materials on the amendments to the provisions on waste incineration, even the historical analysis is of little use in clarifying the question of whether, in the context of Article 13 (1) j) and 17 (1) d) ii), the incineration of waste for energy recovery contradicts the environmental objective of the transition to a circular economy and must therefore be regarded as unsustainable within the meaning of Article 3.

However, the amendments made by the legislators Parliament and Council in the legislative process indicate that the legislators are keen to apply a more differentiated approach to waste incineration than the Commission has done in its proposal for a Regulation. This could lead to the conclusion that certain types and/or forms of waste incineration - such as the incineration of waste for energy recovery - could, in the view of the legislators, be considered to be in line with the environmental objective of the transition to a circular economy and thus environmentally sustainable. However, this cannot be determined with legal certainty for the above-mentioned reason.

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[21] ibid.

III. Systematic interpretation

Systematic interpretation makes the content of a law provision accessible by deriving the purpose of the provision from its relationship to other provisions and the overall structure.[22] According to the European Court of Justice (ECJ), *'the meaning and scope of terms for which European Union law provides no definition must be determined by considering, inter alia, the context in which they occur and the purposes of the rules of which they form part'*[23]. In this context, *'every provision of Community law must be placed in its context and interpreted in the light of the provisions of Community law as a whole, regard being had to the objectives thereof and to its state of evolution at the date on which the provision in question is to be applied'*[24]. When interpreting provisions of primary law, it is therefore important to consider the systematic relationship between all provisions of primary law, when interpreting provisions of secondary law it is important to consider the provisions of the relevant secondary legal act, but also the other relevant secondary law and the relationship with the provisions of primary law.[25]

As a result, the provisions of Articles 13 (1) j) and 17 (1) d) ii) on circular economy and in particular on waste incineration must be seen in the overall context of the Taxonomy Regulation and in relation to the other provisions of the Regulation. Furthermore, the provisions of the Taxonomy Regulation on circular economy and waste incineration must also be seen in the overall context of the EU's waste law provisions and placed in relation to them. This also follows from the Regulation itself; recital 27 states that *'the environmental objective of the transition to a circular economy should be interpreted in accordance with relevant Union law in the areas of the circular economy, waste and chemicals'*. Individual directives, regulations and also communications of the Commission were explicitly mentioned, such as Regulation (EC) No. 1013/2006 on shipments of waste (hereinafter: 'Regulation (EC) No.

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22 *Pieper*/Dauses/Ludwigs, Handbook of EU Economic Law, work status: 49. Addendum, November 2019, B.I. Legal Sources, marginal no. 24.

23 ECJ, judgment of 18.10.2011 - C-34/10 'Oliver Brüstle ./. Greenpeace e.V.', marginal no. 31.

24 ECJ, judgment of 6.10.1982 - 283/81 'C.I.L.F.I.T.', marginal no. 20.

25 Pieper, op. cit.; *Wegener*/Calliess/Ruffert, EUV/AEUV, 5th edition 2016, Art. 19, marginal no. 15.

1013/2006') and the WFD, as well as the Commission Communication 'Closing the loop - An EU action plan for the Circular Economy' of 2 December 2015.

1. Interpretation in the context of the Taxonomy Regulation

When considering the provisions on waste incineration in the overall structure of the Taxonomy Regulation, it is necessary to examine the relationship between waste incineration and the other provisions of the Regulation and to clarify how it is to be assessed in the light of the general criteria of sustainable economic activity.

Article 3 of the Taxonomy Regulation contains the criteria for environmentally sustainable economic activities. Accordingly, an economic activity is considered environmentally sustainable if it contributes substantially to one or more of the environmental objectives set out in Article 9, does not significantly harm the environmental objectives, is carried out in compliance with the minimum safeguards laid down in Article 18 and complies with technical screening criteria.

a) Significant contribution to the achievement of an environmental objective

An economic activity can only be assessed as environmentally sustainable if it makes a significant contribution to achieving one or more of the environmental objectives set out in Article 9 of the Taxonomy Regulation.

aa) Contribution to the realisation of the transition to a circular economy

First of all, the question arises whether waste incineration for energy recovery cannot (after all) contribute to the realisation of the transition to a circular economy pursuant to Article 9 d) from an objective point of view.

Circular economy is defined in Article 2 No. 9 as *'an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy'.*

According to Article 13 (1) a), an economic activity substantially contributes to the transition to a circular economy if it *'uses natural resources, including sustainably sourced bio-based and other raw materials, in production more efficiently, including by:*

> *(i) reducing the use of primary raw materials or increasing the use of by-products and secondary raw materials, or*
>
> *(ii) resource and energy efficiency measures'.*

According to recital 28 of the Regulation, this includes, for example, when the economic activity improves the durability, reparability, upgradeability and reusability of products or reduces the use of resources through product design and material selection, facilitating repurposing, disassembly and deconstruction in the buildings and construction sector, in particular to reduce the use of building materials and promote their reuse. Likewise, an economic activity contributes to the environmental objective of the transition to a circular economy by developing 'product-as-a-service' business models and circular value chains with the aim of keeping products, components and materials at their highest utility and value for as long as possible.

The incineration of waste for energy recovery can therefore be considered a contribution to the circular economy if it leads to resources being preserved as long as possible by reducing the use of primary raw materials for the production of electricity and/or heat/steam.

(1) Recycling and material recovery not possible for all waste/incineration of secondary waste for energy recovery

Insofar as waste is incinerated that could have been reused, recycled or reutilised, i.e. could have been used for other material purposes, waste incineration for energy recovery contradicts the objective of preserving resources as long as possible.[26]

[26] Cf. https://www.nabu.de/umwelt-und-ressourcen/abfall-und-recycling/verbrennung/index.html; last accessed on: 15.06.2020.

However, not all waste can be recycled and/or meaningfully reused. This may be due to the product design, i.e. the composition of the products that have become waste, and the complexity of the materials used, which applies in particular to packaging[27], so that recycling is technically impossible. Likewise, recycling or material recovery may not be (technically) possible or reasonable due to excessive contamination of the waste - e.g. through defective adhesions, e.g. in the case of packaging containing hazardous substances that has not been emptied of residues - or due to mixing of waste with in the course of the collection because of inadequate collection systems[28], so that too many resources and energy would have to be used for cleaning and separating. In its communication on a strategy for plastics, the European Commission has also emphasised that the quality of waste is decisive for recycling and that, in particular, a stronger and better recycling of plastics is held back by insufficient volumes and quality of separate collection and sorting.[29] In its communication on the role of waste-to-energy in the circular economy, the Commission also recognised that not all waste is suitable for recycling and must be treated differently, whereat incineration is preferable to landfill.[30]

It should also be noted that large quantities of waste that are incinerated are not directly incinerated for energy recovery. Most of the waste has previously undergone several treatment steps (e.g. mechanical-biological treatment, sorting of light packaging, etc.), in which the waste fractions are separated by mainly mechanical processes and from this new material flows are generated, which then pass through different treatment and recovery paths;[31] in particular, sorting residues are incinerated. Only when no other use is technically and economically feasible, these so-called secondary

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27 European Commission, Communication 'A new Circular Economy Action Plan - for a cleaner and more competitive Europe' (COM(2020) 98 final) of 11.03.2020, sec. 2.1, p. 3 and sec. 3.3, p. 10; *Seelig*/Stein/Zeller/Faulstich, Possibilities and limits of recycling, Raumforschung und Raumordnung (RuR) 2015, p. 61; Fraunhofer Institute, Fraunhofer UMSICHT, The role of thermal waste treatment in the circular economy, August 2017, p. 17.

28 *Seelig*/Stein/Zeller/Faulstich, RuR 2015, p. 63 et seq.

29 European Commission, Communication 'A European Strategy for Plastics in a Circular Economy' (COM(2018) 28 final) of 16.01.2018, sec. 4.1, p. 10.

30 European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 6 et seq.

31 Cf. German Federal Environment Agency, UBA Texte 51/2018, p. 76.

wastes (wastes from waste treatment, cf. waste group 19 12 'wastes from the mechanical treatment of waste (e.g. sorting, crushing, compacting, palletising) not otherwise specified' of the European Waste Catalogue[32]) are incinerated. If it were not incinerated - which is usually incineration for energy recovery as most waste incineration plants meet the R1 criterion of Annex II of the WFD - this secondary waste would have to be landfilled.

(2) Reasonable use of non-recyclable/materially recoverable waste for energy generation - Conservation of fossil energy sources

Waste incineration for energy recovery makes it possible that waste that cannot be (reasonable) reused, recycled or reutilised can be reasonable utilized in another way, namely for the production of electricity and/or heat/steam. This includes waste incineration and co-incineration with a high degree of energy recovery as well as the reprocessing of waste into materials that are used as solid, liquid or gaseous fuels[33]. The use of fossil fuels for the production of electricity and/or heat/steam is avoided for the proportion of energy that can be obtained from the incineration of waste (energy recovery from waste).[34] Thus, the use of energy from waste treatment processes contributes to the replacement of fossil fuels. If fossil fuels are replaced by waste as a fuel in the generation of electricity and heat, there are also considerable CO2 savings, since fuels from waste are considered to be climate-neutral due to their high biogenic content (see C. III. 1. a) bb) (1)).

Where waste cannot be prevented or recycled, it is environmentally and economically preferable to recover its energy content. Energy recovery from waste by incineration can therefore create synergies with EU energy and climate policy, provided that it is

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32 Annex to Commission Decision of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1 (a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, OJ L 226, 6.9.2000, p. 3.

33 European Commission, Communication 'The role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 5.

34 German Federal Environment Agency, UBA Texte 51/2018, p. 10; Energy Brainpool GmbH & Co.KG, Contribution of thermal waste treatment plants to energy system transformation, 9.2.2017, p. 8.

guided by the principles of the EU waste hierarchy. The EU Commission itself has stated that the energy recovery from waste can contribute to the transition to a circular economy, provided that the waste hierarchy is taken as a guiding principle and that a higher level of prevention, recovery and recycling is not prevented.[35]

The incineration of waste that cannot be reasonably recycled for energy recovery is in line with this requirement and can therefore contribute to the circular economy. The German Federal Environment Agency even considers it conceivable that the gap in heat supply that will arise in the future when many thermal power plants are shut down can be closed by waste-to-energy plants.[36]

(3) Reduction of pollutants

Waste incineration also helps to minimise the release of harmful substances. Substances which, at the end of the product life cycle, are or can be a source of pollutants due to their intended use within a product and a specific product property, must also in a circular economy be treated and removed from the material cycle. Waste incineration represents an appropriate pollutant sink.[37] It thus reduces the impact on the environment and minimises the release of hazardous substances as defined in the definition of circular economy in Article 2 No. 9.

Waste incineration can thus also contribute to the circular economy by removing pollutants.

(4) Conservation of resources through material recovery of metals from combustion residues

In addition, waste incineration also enables the material recovery of metals that are not or cannot be collected separately and recovered. These can be found in the grate and boiler ashes or incineration slag remaining after waste incineration.

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35 European Commission (Joint Research Centre (JRC)), Science for policy report 'Towards a better exploitation of the technical potential of waste-to-energy' 2016, p. 17.

36 German Federal Environment Agency, UBA Texte 51/2018, p. 10.

37 Fraunhofer Institute, Fraunhofer UMSICHT, The role of thermal waste treatment in the circular economy, August 2017, p. 2, 9.

According to Swiss studies it is estimated that, despite careful separate collection, more than 50% of all metals that pass through Swiss households end up in residual waste that will be incinerated. The reason for this is that most metals found in consumer goods are small in size and usually occur in combination with other materials such as plastics, ceramics or textiles. As a rule, only pieces of metal larger than 100 mm in size and those that are for the most part free of composite materials can be successfully recovered in the course of separate collection. Smaller electrical and electronic wastes, such as batteries and small entertainment equipment, are typically also often disposed of in municipal waste rather than being collected separately.[38]

According to the investigations in Switzerland, one ton of incineration ash from a waste incineration plant for municipal waste contains approx. 31 kg of iron, 16 kg of aluminum, 2 kg of copper and, in smaller quantities, tin, lead, silver and gold.[39] This corresponds to approx. 5 mass-% of the incineration ash. A similar metal content of 6 mass-% is also assumed for Germany (as of 2016).[40] These metals can be sorted out of the ashes or slags and then be recycled. In 2013, approx. 5.35 million tonnes of grate ash from waste incineration have been produced in Germany;[41] with a share of 5 mass-% this results in a calculated share of approx. 267,000 tonnes of metals that can be recovered from incineration ashes.

Waste incineration thus enables the recycling of certain material flows that are not covered by separate collection. In particular, valuable metals can be recovered to a considerable extent. Waste incineration thus makes an considerable contribution to the circular economy.

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38 Bunge, Recovery of Metals from Waste Incineration Bottom Ash, in: Holm, O.; Thomé-Kozmiensky, E. (Eds.), Removal, Treatment and Utilisation of Waste Incineration Bottom Ash, 2018, p. 63, 75.

39 Morf, L. et al.: Precious metals and rare earth elements in municipal solid waste – Sources and fate in a Swiss incineration plant, in: Waste Management 3(2013) p. 634-644, quoted after: ISWA, Report Bottom ash from WtE plants – Metal recovery and utilization, Copenhagen 2015, p. 11; reference: https://www.iswa.org/home/news/news-detail/browse/29/article/bottom-ash-report-now-online/109/, last accessed on: 15,07.2020

40 *Quicker*/Kurth/Oexle/Faulstich (Eds.), Practical Handbook of Environmental Services and Raw Materials Management, 2018, p. 664.

41 Quicker, ibid.

(5) Conservation of resources through recovery of building materials from waste incineration residues

In addition, waste incineration makes it possible to reduce the consumption of resources with regard to the use of building materials. This is because waste incineration can be used to produce mineral materials that can be used as building materials.

On the one hand, this concerns the building material gypsum. In addition to solid particles (dust), the flue gas produced during waste incineration mainly contains hydrogen chloride and sulphur dioxide. In the course of a chemical process during flue gas cleaning, gypsum is extracted from the sulphur dioxide in flue gas desulfurisation plants (FGD) of the waste incineration plants by adding lime components, so-called FGD gypsum.[42] In the Federal Republic of Germany alone, approx. 60 % of the demand for gypsum is currently covered by FGD gypsum. Approx. 40 % of the demand in Germany is satisfied by extraction from natural gypsum deposits. Up to now, the extraction of FGD gypsum from coal-fired power generation has played a major role in this. However, the supply of FGD gypsum to the gypsum industry will decline very sharply in the medium and long term due to the phase-out of coal-fired power generation, which is not only planned in Germany but also throughout the EU.[43] As a consequence, natural gypsum deposits would have to be exploited more intensively again to satisfy demand, thus placing greater pressure on natural resources.[44] FGD gypsum extraction from waste incineration plants can therefore play an important role in the conservation of natural resources. In addition, hydrochloric acid and zinc can also be extracted from the flue gas cleaning of the waste incineration plants.[45]

On the other hand, the grate and boiler ashes or slag left over from waste incineration are also used as building materials, thus helping to conserve natural resources.

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42 Quicker, ibid., p. 677, 682 et seq.

43 Cf. European Commission, Communication 'The European Green Deal' (COM(2019)640 final) of 11.12.2019, sec. 2.1.2, p. 7.

44 Cf. German Federal Environment Agency, Life Cycle Assessment of the Recycling of Plasterboard, UBA-Texte 33/2017 (hereinafter: German Federal Environment Agency, UBA-Texte 33/2017), p. 22, 28.

45 *Quicker*/Kurth/Oexle/Faulstich (Eds.), Practical Handbook of Environmental Services and Raw Materials Management, 2018, p. 681, 684.

According to a study by the Danish institute Ramboll on behalf of the International Solid Waste Association (ISWA), in Denmark, Germany, France and the Netherlands bottom ash and slag from waste incineration is used as a base material in road construction, replacing sand and gravel; it is also used as a construction material for motorway embankments and noise barriers, or it is added to concrete products with low tensile strength, thus significantly reducing the energy-intensive production of pure concrete.[46] Approx. 70 mass-% of the grate and boiler ashes can be recycled in this way, only approx. 6 to 7 % have to be deposed of as sludge.[47]

According to the study quoted, the incineration of almost 70 million tonnes of waste in approx. 450 waste incineration plants in Europe generates approx. 16 million tonnes of grate and boiler ash or slag per year[48]. With a possible recycling or utilisation rate of 70 mass-%, substitute building materials can be obtained to a very considerable extent and natural building materials can be substituted to a correspondingly considerable extent. Waste incineration can therefore make a considerable contribution to the conservation of natural resources in the construction sector by providing building materials and thus also contribute to the transition to a circular economy.

Summing up, it can be said that in addition to the resource-saving production of electricity and heat waste incineration for energy recovery - insofar as it concerns waste that is not suitable for recycling - can contribute to the transition to a circular economy within the meaning of Article 9 d) in many ways.

bb) Contribution to other environmental objectives

It is questionable whether waste incineration for energy recovery can also contribute to other environmental objectives of Article 9. In particular, the environmental objectives of climate change mitigation, Article 9 a), and pollution prevention and control, Article 9 e), can be considered.

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46 ISWA, Report Bottom ash from WtE plants – Metal recovery and utilization, Copenhagen 2015, p. 21 ff.; reference: https://www.iswa.org/home/news/news-detail/browse/29/article/bottom-ash-report-now-online/109/; Quicker, aaO., p. 663, 670 et sec.

47 Quicker, ibid., p. 672.

48 ISWA, Report Bottom ash from WtE plants – Metal recovery and utilization, Copenhagen 2015, p. 24.

(1) Climate change mitigation

In accordance with Article 10 (1), an economic activity contributes to the environmental objective of climate change mitigation if, through certain measures or activities referred to in Article 10 (1) a) to i), it contributes substantially to the stabilisation of greenhouse gas emission by avoiding or reducing them or by increasing greenhouse gas removals.

Article 10 (1) a) mentions, among other things, the generation, transmission, storage, distribution or use of renewable energy pursuant to Directive (EU) 2018/2001 of 11 December 2018 on the promotion of the use of energy from renewable sources (hereinafter: 'Renewable Energy Directive'). According to Article 2 No. 1 Renewable Energy Directive *'energy from renewable sources' or 'renewable energy' means energy from renewable non-fossil sources, namely [...] biomass, landfill gas, sewage treatment plant gas, and biogas'*. According to Article 2 No. 24 Renewable Energy Directive, biomass also includes the '*biodegradable fraction(s) of waste, including industrial and municipal waste of biological origin*'.

In the context of waste incineration, energy is at least to a large extent obtained from biomass and thus renewable energy within the meaning of Article 2 No. 1 of the Renewable Energy Directive, as the waste supplied for incineration usually contains a considerable biogenic proportion. The biogenic fraction in waste varies considerably depending on the type of waste and can be almost 100% for special fractions such as wood. More than half of the municipal waste of particular relevance to waste incineration still consists of components of biogenic origin.[49]

Biomass is considered CO2-neutral by definition when it is combusted for the production of electricity and/or heat/steam, since the combustion of biomass only releases the amount of greenhouse gases that the biomass has removed from the atmosphere during its growth. Correspondingly, the biogenic portion in the waste is also

[49] German Federal Environment Agency, UBA Texte 51/2018, p. 81; German Federal Environment Agency, UBA-Texte 33/2011, p. 66.

considered CO2-neutral in the context of waste incineration.[50] This means that the incineration of waste containing a considerable share of biogenic waste (like municipal waste) for energy recovery contributes to considerable CO2 emission savings. According to studies commissioned by the German Federal Environment Agency, the use of waste to provide energy will lead to savings of around 15 million tonnes of CO2 in 2015 in Germany alone.[51]

Thus, the incineration of waste for energy recovery contributes to climate change mitigation within the meaning of Article 9 b) by significantly reducing the greenhouse gas emissions resulting from energy generation due to the high biogenic share of certain waste streams that are incinerated. For example, the High Level Expert Group on Sustainable Finance (hereinafter: 'HLEG')[52] set up by the EU Commission has also established that waste incineration for energy recovery can in principle contribute to climate protection if it is possible to demonstrate substantial greenhouse gas emission savings by burning a mixture of organic or biogenic materials such as food waste, wood and paper on the one hand and carbon-intensive solid waste from fossil fuels

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50 German Federal Environmental Agency, UBA Texte 51/2018, p. 81; German Federal Environment Agency, Waste incineration is not opposed to waste prevention, July 2008, p. 3; Reference: https://www.umweltbundesamt.de/publikationen/abfallverbrennung-ist-kein-gegner-abfallvermeidung; Energy Brainpool GmbH & Co.KG, Contribution of thermal waste treatment plants to energy system transformation, 09.02.2017, p. 22, 25, 42.

51 German Federal Environment Agency, Use of the potential of the biogenic portion of waste for energy generation, January 2011, UBA Texte 33/2011 (hereinafter: German Federal Environment Agency, UBA Texte 33/2011, short summary; German Federal Environmental Agency, UBA Texte 51/2018, p. 10.

52 The HLEG was established by the Commission in December 2016 to develop a set of policy recommendations aimed at facilitating the flow of public and private capital into sustainable investment and minimising potential risks to the EU financial system due to its exposure to carbon-intensive installations. It is composed of 20 high-level experts from civil society, the financial sector, academia and observers from European and international institutions; reference: https://ec.europa.eu/info/files/commission-decision-creation-high-level-expert-group-sustainable-finance-context-capital-markets-union-press-release_en.

such as rubber and plastics on the other hand to generate heat and/or electricity - if the incineration of recyclable materials is avoided.[53]

(2) Pollution prevention and control

According to Article 14 (1) a), an economic activity shall qualify as contributing substantially to pollution prevention and control where that activity contributes substantially to environmental protection from pollution by preventing or, where that is not practicable, reducing pollutant emissions into air, water or land. The relevance of this provision should be determined in accordance with 'relevant Union law', including, inter alia, Directives 2004/107/EC of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (OJ L 23, 26.1.2005, p. 3) and 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ L 152, 11.6.2008, p. 1).[54]

According to Article 14 (1) d), an economic activity also significantly contributes to the prevention and control of pollution if it contributes to the protection of the environment by cleaning-up litter and other pollution .

As already mentioned under C. III. 1. A) aa) (3), waste incineration also serves to remove pollutants from the material and economic cycle. In this way, waste incineration prevents pollutants contained in waste, which may accumulate during recycling or recovery of products or at the place of recycling, from being emitted into the environment from those products or from the recovered waste.

Moreover, according to the German Federal Environment Agency, less air pollutants are released during the production of electricity and heat in waste incineration plants than during the production of electricity and heat in conventional (heating) power plants. For example, a waste incineration plant would have a credit of about 3 tonnes

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53 HLEG, Final report: Financing a sustainable European Economy, January 2018, Annex 3, p. 4 (Table, row 'solid waste management, waste-to-energy plants (e.g. incineration, gasification, pyrolysis and plasma)'; reference: https://ec.europa.eu/info/publications/sustainable-finance-high-level-expert-group_en.

54 Recital 29 Taxonomy Regulation.

of arsenic equivalents per year for the carcinogenic substances arsenic, cadmium, nickel, benzo(a)pyrene, benzene, PCBs and dioxins/furans compared to a conventional power plant[55]. Even in the view of the Commission the waste incineration can contribute to the environmental objective of preventing and controlling pollution. In its Communication on the 'The role of waste-to-energy in the circular economy', the Commission explicitly stated that *'support for energy from renewable sources using waste or support for cogeneration and district heating installations using waste can make a positive contribution to environmental protection provided it does not circumvent the waste hierarchy'*.[56]

Waste incineration can thus serve to prevent or reduce emissions into air, water or land and thus protect against environmental pollution. In this respect, both incineration of waste for disposal and waste incineration for energy recovery can protect against environmental pollution and make a significant contribution to the prevention and control of environmental pollution within the meaning of Article 14 (1) d).

b) No significant harm to environmental objectives, Article 17

However, according to Article 3 b), an economic activity is only considered environmentally sustainable if, in addition to its own contribution to the achievement of an environmental objective, it does not cause any significant harm to one or more other environmental objectives of the Taxonomy Regulation as specified in Article 17.

According to Article 17 (2), when assessing an economic activity as having a significant negative impact, both the environmental impact of the activity itself and the environmental impact of the products and services provided by that activity throughout their life cycle must be taken into account.

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55 German Federal Environment Agency, background paper 'the importance of waste incineration in Germany', 2008, p. 4; reference: https://www.umweltbundesamt.de/publikationen/stellenwert-abfallverbrennung-in-deutschland.

56 European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 6.

aa) Significant harm to the circular economy, Article 17 (1) d)

According to Article 17 (1) d), a significant harm to the circular economy is to be assumed if the activity leads to inefficiency in the use of materials or the direct or indirect use of natural resources such as non-renewable energy sources, raw materials, water and land in one or more stages of the life cycle of products, Article 17 (1) d) i), if it leads to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste, Article 17 (1) d) ii), or if the long-term disposal of waste may cause significant and long-term harm to the environment, Article 17 (1) d) iii).

A harm pursuant to Article 17 (1) d) iii) is irrelevant in the present case, since the assessment of waste incineration within the meaning of Article 3 No. 15 WFD in conjunction with Annex II, R1 'Use principally as a fuel or other means to generate energy' is the subject of the investigation and waste incineration for disposal is disregarded.

(1) Considerable inefficiency in the use of materials and resources

Energy recovery from waste could contribute to inefficiencies in material use, as also resources that could be used for other purposes, e.g. recycling, are incinerated. In Germany, for example, 40% of bulky waste is incinerated, sometimes without checking whether it could be reused or recycled.[57] However, due to a lack of data, it is not possible to determine the proportion of recyclable materials that are incinerated for energy recovery in the EU as a whole.

Accordingly, it cannot be assumed that waste incineration for energy recovery actively hampers waste prevention and recycling. Measures for waste prevention and recycling take place in particular at the stage of product design and consumption and thus at the level of the producers and consumers of goods and not at the level of waste management companies.[58] Product design in particular is of great importance in

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57 https://www.nabu.de/umwelt-und-ressourcen/abfall-und-recycling/verbrennung/index.html; last accessed on 11.06.2020.

58 Cf. German Federal Environment Agency, Waste incineration is not opposed to waste prevention, July 2008, p. 3 et seq.; reference: https://www.umweltbundesamt.de/publikationen/abfallverbrennung-ist-kein-gegner-abfallvermeidung.

determining how the waste in question can later be treated. The Commission has stated that '*closed-loop recycling starts at the beginning of the life cycle of a product*' and that '*both the design phase and the subsequent production processes have an impact on procurement, resource use and waste generation throughout the life cycle of a product*'.[59] Accordingly, the Commission assigns significant importance to product design and production processes for the circular economy.[60]

The Commission also considers consumer behaviour to be essential for the implementation of a circular economy. Consumer choices can promote or hinder the recycling industry, whereby these are often closely related to product design.[61]

In the context of waste management itself, waste collection and waste separation are of essential importance for the Commission to be able to recycle waste to a high standard. For example, the incineration of waste, which is actually recyclable, is also due to inadequate waste separation by consumers[62]. Waste collection and waste separation must therefore be improved, and the systems for extended producer responsibility are of particular importance.[63]

Due to the lack of a substantiated database, it cannot be said with legal certainty whether waste incineration for energy recovery leads to inefficiency in the use of materials and whether this inefficiency is to be regarded as significant. In this respect, it is more likely to be assumed that incineration takes place and is necessary due to consumer and manufacturer behaviour and less likely that avoiding incineration could have an influence on consumer/manufacturer behaviour.

Considering inefficiency in the direct or indirect use of natural resources, it has already been established previously that waste incineration can contribute to the conservation of natural resources in various ways. For example, the incineration for

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59 European Commission, Communication 'Closing the loop – An EU action plan for the Circular Economy (COM(2015)614 final) of 02.12.2015, p. 4.

60 European Commission, ibid., p. 4 et seq., 8.

61 European Commission, ibid., p. 8.

62 Cf. https://www.nabu.de/umwelt-und-ressourcen/abfall-und-recycling/verbrennung/index.html; under: 'What is being incinerated?'; last accessed on: 17.06.2020.

63 European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 10.

energy recovery contributes to the conservation of fossil fuels (see point C. III. a) aa) (2)), enables the material recovery of metals from incineration residues not covered by the separate collection of waste (see point C. III. a) aa) (4)) and conserves natural resources with regard to the extraction and use of building materials from incineration ashes and slag (see point C. III. a) aa) (5)).

Regarding a harm to the circular economy pursuant to Article 17 (1) d) ii), it follows that an increase in waste incineration for energy recovery cannot have the same (negative) effect on the environmental objective of the circular economy as an increase in the generation or disposal of waste. Equating waste incineration with disposal is therefore only comprehensible for those types of waste incineration that are to be classified as disposal, according to Article 3 No. 19 WFD in conjunction with Annex I, D 10 and D 11, which does not include incineration for energy recovery. Therefore, the provision in Article 17 (1) d) can only be understood in the meaning that the term incineration only covers incineration that is to be classified as disposal.

In the light of the above, it can be concluded that waste incineration in general and in particular the incineration of waste for energy recovery do not necessarily and generally lead to inefficiencies in the use of materials or in the direct or indirect use of natural resources.

(2) Significant increase in incineration

With regard to the question whether and to what extent the incineration of waste for energy recovery as an economic activity leads to a harm to the circular economy within the meaning of Article 17 (1) d), also for the systematic interpretation the problem arises, that has already been raised in the grammatical interpretation, namely that the wording of the provisions of the Taxonomy Regulation on waste incineration does not even take into account waste incineration itself as an economic activity - the Taxonomy Regulation apparently only refers to economic activities that lead to waste incineration, i.e. are upstream of it (see No. C. I. 6.).

Thus, when assessing the sustainability of waste incineration for energy recovery under Article 17 (1) d) ii), one would have to answer the question whether waste incineration for or the purpose of energy recovery leads to a significant increase in the

incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste.

As regards an increase in disposal, the answer to this question is clear and easy: incineration of waste for recovery cannot lead to an increase in disposal, since it is recovery and not disposal.

Regarding the increase in waste incineration, the question must, in order to make sense, be reinterpreted as to whether the recognition of waste incineration for energy recovery as environmentally sustainable could lead to an increase in waste incineration for energy recovery.

This can be doubted for the same reasons that an inefficiency in the use of materials and resources can be denied. Whether waste is incinerated for energy recovery rather than recycled depends primarily on whether the products and production processes are designed in such a way that, when the products become waste, they can be reused or recycled at all from a technical and economic point of view. It also depends on the behaviour of consumers and waste producers (demand for recyclable goods, waste separation) as well as on the design and specifications for waste collection and recovery (sorted separate collection).[64]

The EU Commission does not see any inevitable negative effects of waste incineration on the circular economy either as long as waste incineration complies with the requirements of the waste hierarchy, no overcapacities are created and the infrastructure for separate waste collection and separate recycling is improved.[65] In view of increased efforts and targets for separate waste collection and recycling, the EU Commission is even expecting a decline in mixed waste, which is particularly suitable for incineration,[66] so that, as a result, waste incineration could also decline.

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64 European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 4 et seq., 8, 10.

65 European Commission, ibid., p. 6; European Commission, Communication 'Closing the loop - An EU Action Plan for the Circular Economy' (COM(2015) 614 final) of 02.12.2015, p. 11 et seq.

66 European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 6.

Neither does the German Federal Environment Agency expect waste incineration to increase - despite the important role that waste incineration plays for the energy supply in Germany and climate protection through CO2 savings. [67] According to a forecast of the Agency for the year 2030, the volume of waste for energy recovery in 2030 will be comparable to that of 2015 - but with an increase in total waste volume. This would imply a decline in the quantities of waste used for energy recovery, which would be due to a further separation of waste as a result of higher recycling rates.[68]

In the light of the above, it cannot be assumed that the incineration of waste for energy recovery and its recognition as an environmentally sustainable activity will lead to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste. Accordingly, the incineration of waste for energy recovery does not affect the circular economy, including waste prevention and recycling, within the meaning of Article 17 (1) d).

(3) Exemption for the incineration of non-recyclable hazardous waste

From a systematic point of view, it should also be noted that Article 17 (1) d) ii) contains an exception for the incineration of non-recyclable hazardous waste. Since an exception has been included only for this special case, this could reflect the intention of the legislator to assess all other types of incineration undifferentiated as harming the environmental objective.

However, the distinction is based on the type of waste (hazardous waste) and not on the type of recovery. This leads to the conclusion that no distinction should be made with regard to incineration of all other types of waste, but not with regard to other types of incineration.

Another reason for the exemption could be that for hazardous waste incineration is in principle, irrespective of other environmental aspects, the most appropriate

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67 German Federal Environment Agency, UBA Texte 33/2011, short summary; German Federal Environmental Agency, UBA Texte 51/2018, p. 10; see C. III. 1. a) bb) (1).

68 German Federal Environment Agency, UBA Texte 51/2018, p. 10.

treatment,[69] as such waste is generally neither recyclable nor reusable. In case of hazardous waste, there is therefore a particular interest in disposal by incineration - even without using the energy generated in the process - since the primary objective is to remove the toxic substances contained in the waste from the economic cycle and to protect the environment.

bb) Significant harm to other environmental objectives

Finally, waste incineration for energy recovery must not significantly harm the other environmental objectives of Article 9.

(1) Climate change mitigation

According to Article 17 (1) a), an economic activity significantly harm climate change mitigation if this activity leads to significant greenhouse gas emissions.

As waste incineration is generally considered to lead to a reduction in greenhouse gas emissions, an adverse effect within the meaning of Article 17 (1) a) can be ruled out.[70]

(2) Pollution prevention and control

An activity significantly harms the environmental objective 'pollution prevention and control of pollution' if it leads to a significant increase in the emissions of pollutants into air, water or land as compared with the situation before the activity started.

A significant harm of this environmental objective can also be ruled out, since waste incineration contributes precisely to environmental protection, cf. point C. III. 1. a) bb) (2).

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69 Cf. European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 5.

70 See C. III. 1. a) bb) (1); German Federal Environment Agency, UBA Texte 51/2018, p. 10, 81; German Federal Environment Agency, UBA-Texte 33/2011, short summary and p. 66; German Federal Environment Agency, Waste incineration is not opposed to waste prevention, July 2008, p. 3; reference: https://www.umweltbundesamt.de/publikationen/abfallverbrennung-ist-kein-gegner-abfallvermeidung.

(3) Adaptation to climate change, sustainable use and protection of water and marine resources, and protection and restoration of biodiversity and ecosystems

Even with regard to these environmental objectives, it is not evident that and to what extent waste incineration would lead to an adverse effect.

c) Compliance with the minimum safeguards under Article 18

Finally, in order to be considered environmentally sustainable, an economic activity must, according to Article 3 c), be carried out in compliance with the minimum safeguards laid down in Article 18.

According to Article 18 (1), these are procedures *'implemented by an undertaking that is carrying out an economic activity to ensure the alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.'*

There are no indications that this requirement would be violated in the context of the incineration of waste for energy recovery.

d) Fulfilment of the technical screening criteria according to Article 3 d)

Finally, the waste incineration pursuant to Article 3 d) would still have to comply with the technical screening criteria established by the EU Commission pursuant to Articles 10 (3), 11 (3), 12 (2), 13 (2), 14 (2) and 15 (2). However, these criteria have yet to be established, so that this element can be disregarded.

e) Interim result of the systematic interpretation in connection with the provisions of the Taxonomy Regulation

The systematic interpretation of the provisions on waste incineration in the (overall) context of the Taxonomy Regulation has shown that the waste incineration for energy

recovery can actually contribute to achieving the environmental objective of 'transition to a circular economy' pursuant to Article 9 d), as it saves natural resources. The systematic interpretation has also shown that waste incineration for energy recovery can also contribute to the achievement of the environmental objectives 'climate change mitigation' under Article 9 a) and 'pollution prevention and control' under Article 9 e). It can contribute to climate change mitigation by reducing CO2 emissions in comparison to conventional production of electricity and/or heat/steam and it can contribute to reducing environmental pollution by removing pollutants contained in waste from the material cycle and by reducing emissions of heavy metals such as arsenic, cadmium and dioxins in comparison to conventional production of electricity and/or heat/steam.

Finally, the interpretation and analysis have also shown that waste incineration does not significantly harm the achievement of the environmental objectives mentioned in Article 9, even in the sense of Article 17.

According to this, the systematic interpretation of the provisions on waste incineration in conjunction with the other provisions of the Taxonomy Regulation leads to the conclusion that waste incineration for energy recovery can be considered sustainable pursuant to Article 3 under certain conditions, namely if it is carried out in accordance with the requirements of the waste hierarchy.

2. Interpretation in connection with EU waste legislation

Recital 27 of the Taxonomy Regulation lists 15 Directives, Regulations, Commission Decisions and Communications on waste management which should be used to interpret the environmental objective of the transition to a circular economy.

The WFD is of outstanding importance in this respect. It provides the legal framework for dealing with waste in the Community. The WFD determines key terms such as waste, recovery and disposal and specifies the basic principles of waste management and waste management requirements with the aim of reducing the environmental

impacts of waste generation and management and, in particular, promoting the recovery of waste and the use of recovered materials to conserve natural resources.[71]

a) Interpretation with regard to the waste hierarchy according to Article 4 WFD

The waste hierarchy of Article 4 WFD is of particular importance for the interpretation of the regulations on waste incineration, as it is '*the cornerstone of European waste policies and legislation*'[72] and is explicitly referred to in Article 13 (1) j).

aa) Content and meaning of the waste hierarchy according to Article 4 WFD

The primary purpose of the waste hierarchy is to minimise adverse environmental effects from waste and to increase and optimise resource efficiency in waste management and policy.[73]

Article 4 (1) WFD sets out the following order of priorities for waste prevention and management legislation and policy:

a) prevention;

b) preparing for re-use;

c) recycling;

d) other recovery, e.g. energy recovery; and

e) disposal.

According to Article 4 (2) (1) WFD, Member States are obliged to take measures to encourage the options that deliver the best overall environmental outcome. This may require specific waste streams departing from the waste hierarchy where this is

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71 Recitals 1 and 8 WFD.

72 European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste, sec. 3, p. 48.

73 European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste , sec. 3, p. 48.

justified by life-cycle thinking on the overall impact of the generation and management of such waste.

In addition, according to Article 4 (2) (3) WFD, Member States shall take into account the general environmental protection principles of precaution and sustainability, technical feasibility and economic viability, protection of resources, and the overall environmental, human health, economic and social impacts in accordance with Articles 1 and 13 WFD.

While the waste hierarchy determines which waste treatment is the best treatment option from an environmental point of view, it underlies Member States' waste management legislation and policies as a 'target and basis'[74]. However, it is not inflexible, but is designed to promote those options that provide the best overall environmental outcome. For example, Member States may deviate from the waste hierarchy for specific waste streams where this is justified by life-cycle thinking on the overall impacts of the generation and management of such waste streams.[75] Derogation is allowed or even required where life-cycle thinking indicates that compliance with the hierarchy leads to higher environmental impacts.[76] Life-cycle thinking is a conceptual approach that considers upstream and downstream benefits and trade-offs associated with goods and services. It considers the entire life cycle, starting with the extraction of natural resources and including material processing, manufacturing, marketing, distribution, use and waste treatment.[77]

According to Article 4 (2) (3) WFD, a deviation from the hierarchy may also be possible for technical or economic reasons. For example, the Commission also acknowledges that for certain waste streams the best environmental performance may only be achieved '*if, for example, there is a deviation from the priority order of the waste*

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74 Cf. Petersen, The Five-Stage Waste Hierarchy - Functions and Problems, AbfallR 1/2013, p.4.

75 European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste , sec. 3.1, p. 48 et seq.

76 European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste , sec. 3.3, p. 49.

77 European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste , sec. 3.2, p. 49.

hierarchy for reasons of technological feasibility, economic viability and environmental protection.'[78]

With regard to the waste hierarchy, the ECJ has also stated that Article 4 (2) of the Waste Framework Directive requires Member States to promote those options which, taken as a whole, achieve the best result from the point of view of environmental protection and that this may require to deviate from the waste hierarchy for certain waste streams. According to the Court, the waste hierarchy constitutes an objective *'which leaves a margin of discretion to the Member States by not obliging them to opt for a specific prevention and management option.'*[79]

The Court of Justice has also pointed out that in connection with the waste hierarchy, the provisions of Article 13 WFD must also be considered. According to this provision, the Member States shall take the necessary measures to ensure that waste management is carried out without endangering human health or harming the environment, and in particular without risk to water, air, soil, plants or animals. According to the ECJ, protection against the hazards of waste management is a binding objective for the Member States, whilst the content of this objective is not precisely defined and Member States have a discretionary power. This also allows Member States to consider that waste incineration is particularly important in this respect.[80] For example, in the cited decision based on the waste hierarchy, the ECJ approved, in the light of Article 13 WFD, that the Italian government classifies waste incineration plants as '*strategic infrastructures and installations of major national importance*'.

bb) Importance of the waste hierarchy in the context of the Taxonomy Regulation

In view of the requirements of the waste hierarchy, an inflexible and undifferentiated stipulation in the Taxonomy Regulation that waste incineration should in principle be minimised and waste incineration in the form of waste disposal should in principle be avoided (Article 13 (1) j)), as well as a generalized assessment that an activity which

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78 European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 5.

79 ECJ, judgement of 08.05.2019, C-305/18, marginal no. 29 et seq.

80 ECJ, ibid., marginal no. 31 et seq.

leads to an increase in waste incineration impairs the transition to a circular economy (Article 17 (1) d)), seems inadmissible.

In any case, regarding the waste hierarchy, the provisions of Article 13 (1) j) and Article 17 (1) d) cannot be understood to mean that waste incineration in general - i.e. both incineration for disposal and incineration for recovery - does not serve or prevent the transition to a circular economy.

Firstly, it should be noted that, as the EU Commission itself explicitly states, there are different energy recovery processes which have different environmental impacts and a different ranking in the waste hierarchy. Specifically, the EU Commission has distinguished the following energy recovery processes in the case of waste incineration:

- co-incineration of waste in combustion plants (e.g. power plants) and in cement and lime production;
- waste incineration in dedicated facilities;
- anaerobic digestion of biodegradable waste;
- production of waste-derived solid, liquid or gaseous fuels (secondary fuels); and
- other processes, including indirect incineration following a pyrolysis or gasification step.

These processes rank differently in the waste hierarchy, ranging from 'disposal' to 'recovery' to 'recycling'.[81] In this respect, a generalized consideration of waste incineration without differentiation between disposal and recovery under the Taxonomy Regulation would contradict the waste hierarchy as the fundamental and overriding principle of EU waste policy and legislation.

[81] European Commission, Communication 'the role of waste-to-energy in the Circular Economy' (COM(2017) 34 final) of 26.01.2017, p. 4.

On the other hand, the waste hierarchy is 'permeable' or flexible and aims at assessing the specific environmental impacts of a specific waste treatment on a case-by-case basis, based on life-cycle thinking, but also on the technical and possible feasibility of the treatment options envisaged according to the hierarchy.[82] In doing so, it leaves Member States discretion as to which treatment options best achieve the specified objectives, with particular attention being paid to the protection of the environment and health.

For example, waste incineration for energy recovery - and in special cases even incineration for disposal - may sometimes be the more environmentally beneficial treatment option compared to recycling from a lifecycle, technical and economic point of view, thus following the hierarchy. This would be counteracted by an undifferentiated and generalized classification of waste incineration as not beneficial or even detrimental to the circular economy in the Taxonomy Regulation, which does not differentiate between waste incineration for energy recovery and waste incineration for disposal.

Furthermore, the flexibility and freedom of choice expressly granted to the Member States by the ECJ in implementing the hierarchy would be considerably restricted if waste incineration for energy recovery were to be considered unsustainable via the Taxonomy Regulation and thus, in the end, would no longer be a viable option for the Member States.

Since the waste hierarchy is the 'cornerstone of European waste policies and legislation'[83] - and is thus an overriding principle that must also be expressly observed under Article 13 (1) j) - the Taxonomy Regulation cannot be interpreted in such a way that waste incineration would fundamentally contradict the circular economy and therefore be classified as unsustainable under Article 3 a) and b). To the extent that waste incineration is in line with the waste hierarchy, it serves the purpose of a circular economy. As far as waste incineration is in line with the waste hierarchy, it cannot interfere with the other environmental objectives of the Taxonomy Regulation either, since a

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[82] European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste , sec. 3.3, p. 49 et seq.

[83] European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste , sec. 3, p. 48.

measure that is in line with the hierarchy is indeed the best environmental option. Waste incineration can therefore be classified as sustainable insofar as it is in line with the waste hierarchy.

b) Interpretation with regard to the principle of self-sufficiency according to Article 16 WFD

When assessing waste incineration under the Taxonomy Regulation, the principle of self-sufficiency pursuant Article 16 WFD must also be taken into account.

Article 16 (1) WFD requires Member States to take appropriate measures *'to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers, taking into account best available techniques.'* According to Article 16 (1) (2) WFD, Member States *'may, in order to protect their network, limit incoming shipments of waste destined to incinerators that are classified as recovery, where it has been established that such shipments would result in national waste having to be disposed of or waste having to be treated in a way that is not consistent with their waste management plans.'* According to Article 16 (2) WFD, *'the network shall be designed to enable the Community as a whole to become self-sufficient in waste disposal as well as in the recovery of waste referred to in paragraph 1, and to enable Member States to move towards that aim individually, taking into account geographical circumstances or the need for specialised installations for certain types of waste.'*

The Member States are thus obliged under Article 16 (1) WFD to build and maintain an adequate network of installations for the treatment of their municipal waste, whereby the legislator, by referring to "*shipments of waste destined to incinerators that are classified as recovery*", obviously assumes that these installations are primarily waste incineration plants and that mixed municipal waste is generally incinerated for energy recovery.

Moreover, the principle of self-sufficiency concerning waste for disposal and mixed municipal waste must also be taken into account in the interpretation of the taxonomy

regulation because of the Regulation (EC) No 1013/2006 on shipments of waste[84] (waste shipment regulation – WSR). According to recital 27 of the Taxonomy Regulation, the WSR has to be used explicitly as a basis for the interpretation of the Taxonomy Regulation. The WSR implements the principle of self-sufficiency in relation to waste shipments. Member States may raise objections to shipments to other Member States and generally prohibit them for waste covered by self-sufficiency, i.e. in particular waste for disposal and mixed municipal waste from private households that is particularly relevant for incineration for energy recovery, cf. Article 11 (1) a) and g) iii) Regulation (EC) No. 1013/2006 and recital 20 Regulation (EC) No. 1013/2006. This possibility to prohibit shipments of certain waste serves in particular to protect the respective national waste treatment facilities; according to the ECJ, the possibility of keeping the waste in question within the country serves to ensure the capacity utilisation and the economically viable operation of the facilities.[85] Accordingly, the legislator of the Regulation (EC) No. 1013/2006 and the ECJ have acknowledged that the treatment - usually by way of incineration - of waste for disposal and mixed municipal waste for recovery is particularly worthy of protection.

It would be contrary to the legal obligation of the Member States to create and maintain sufficient capacity for the treatment of their waste for disposal and mixed municipal waste and to the protection of the structures for the treatment of such waste intended by the legislator (as reflected in the restrictions on movements of the Regulation (EC) No. 1013/2006) and recognised by the ECJ, if the incineration of (municipal) waste under the Taxonomy Regulation were generally regarded as contrary to the circular economy and therefore unsustainable. This would cause problems for the Member States or the institutions and companies operating the installations in terms of financing the installations and thus hinder the fulfilment of the obligation under Article 16 (1) WFD - i.e. the implementation of the principle of self-sufficiency.

3. Interim result of the systematic interpretation

The interpretation of the provisions of the Taxonomy Regulation on waste incineration in Article 13 (1) j) and Article 17 (1) d) in the context of the Taxonomy Regulation

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84 OJ L 190, 12.7.2006, p. 1.

85 Cf. ECJ, judgment of 13.12.2001, C-324/99, marginal no. 62.

as a whole shows that waste incineration must be viewed in a differentiated manner within the framework of the taxonomy and cannot be viewed in a generalised manner as being in conflict with the circular economy and thus not sustainable. When assessing sustainability, a distinction must be made between waste incineration for disposal and waste incineration for energy recovery. It turns out that waste incineration for energy recovery actually makes a contribution to the circular economy and also contributes to achieving other environmental objectives of the Taxonomy Regulation, such as climate change mitigation and environmental protection. It therefore has to be regarded as sustainable.

It also follows from the consideration of the provisions on waste incineration in connection with the WFD and the waste hierarchy that waste incineration must be assessed in a differentiated manner within the framework of the Taxonomy Regulation. This already follows from the fact that waste incineration can be located at different levels of the hierarchy (recycling - recovery - disposal). In addition, the WFD and the hierarchy require that the treatment option for waste is to be chosen that best serves to protect the environment and human health. The choice of treatment option is also subject to technical feasibility and economic reasonableness, so that deviations from the hierarchy are possible and may be necessary. It cannot therefore be stated in a general and universal way that waste incineration is not in line with the circular economy. In addition, Member States have a wide discretion in determining the most appropriate treatment option for waste. This would be undermined by the undifferentiated classification of waste incineration as not corresponding to the circular economy and thus as being not sustainable.

Finally, the principle of self-sufficiency pursuant Art. 16 WFD obliges the Member States to a certain extent to maintain capacities for waste incineration. Compliance with this obligation should not be made more difficult for Member States by qualifying waste incineration as unsustainable, with the consequence that Member States could face problems in financing the incinerators which are necessary to comply with their obligation.

After all, the systematic interpretation of the Taxonomy Regulation leads to the conclusion that waste incineration for energy recovery cannot be regarded as being in contradiction to the circular economy and thus being not sustainable. In particular,

waste incineration for energy recovery can be in line with the circular economy and also fulfils other environmental objectives of the Taxonomy Regulation, so that waste incineration for energy recovery has to be considered sustainable according to a systematic interpretation of the Regulation.

IV. Teleological interpretation

In the context of teleological interpretation, the content of a law provision is determined by inference from the objectives it pursues. The teleological interpretation is also applied by the ECJ, which states that *'according to settled case-law, in interpreting a provision of EU law, it is necessary to consider not only its wording but also the context in which it occurs and the objectives pursued by the rules of which it is part.'*[86] For this purpose, the ECJ, when interpreting secondary legislation in a teleological way, normally refers to the recitals of the legal act in question. If these are not useful for clarifying the objectives of the act, the ECJ refers to the overall context of the text, thus combining the systematic and teleological interpretations.[87]

1. Aims of the Taxonomy Regulation

The overall objective of the Taxonomy Regulation is to reorient capital flows towards sustainable investments in order to achieve the Union's sustainability objectives.[88] Making available financial products which pursue environmentally sustainable objectives should also channel private investment into sustainable activities.[89]

For this purpose, the Taxonomy Regulations develops criteria for determining the degree of environmental sustainability of an investment in order to standardise the way in which this is specified across the EU and thus avoid the development of divergent national approaches. This should enable financial market participants who offer

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86 ECJ, judgment of 03.09.2015, C-383/14, marginal no. 20.

87 *Pieper*/Dauses/Ludwigs, Handbook of EU Economic Law, work status: 49. Addendum, November 2019, B.I. Legal Sources, marginal no. 44 et seq.

88 Recital 9 Taxonomy Regulation.

89 Recital 11 Taxonomy Regulation.

financial products as environmentally sustainable investments or as investments with similar characteristics to clearly explain to investors why such products can be considered environmentally sustainable.[90] It is decisive that the contribution to a sustainability objective is greater than its detrimental environmental effect.[91] In this respect, the Taxonomy Regulation promotes a balance sheet approach that examines all aspects of sustainability. A positive contribution to these aims can also be made by reducing negative impacts, so that even economic activities that have in principle a negative impact on the environment are not per se excluded from the scope of the Taxonomy Regulation.[92]

The Commission hopes that the Taxonomy Regulation will have a positive indirect environmental impact in the EU by providing clarity on what is 'green' and thereby facilitating investments in sustainable projects and assets across the EU. According to the Commission, this would contribute to the achievement of the EU environmental goals such as the reduction of greenhouse gas emissions and the transition to a resource-efficient circular economy.[93]

With regard to the specific environmental objective of the transition to a circular economy, the recitals of the Taxonomy Regulation state that this objective is to be interpreted in accordance with the relevant Union law and certain decisions and communications of the Commission in the field of circular economy, waste and chemicals, such as the WFD, Regulation (EC) No. 1013/2006, and the Commissions communications 'Closing the loop - An EU action plan for the Circular Economy' and 'A European Strategy for Plastics in a Circular Economy'[94]. It also clarifies that an economic activity can contribute to the environmental objective of transitioning to a circular

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90 Recital 12 Taxonomy Regulation; EU Commission, Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, 24.5.2018, COM(2018) 353 final, p. 6.

91 Recital 34 Taxonomy Regulation.

92 Recital 39 Taxonomy Regulation.

93 EU Commission, Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, 24.5.2018, COM(2018) 353 final, p. 11.

94 Recital 27 Taxonomy Regulation.

economy in several ways, for example by increasing the durability, reparability, upgradeability or reusability of products or by reducing resource consumption through product design and material selection, facilitating repurposing, disassembly and deconstruction in the buildings and construction sector.[95]

2. Evaluation of waste incineration in relation to the objectives of the Taxonomy Regulation

The objectives of the Taxonomy Regulation, which can be deduced from the recitals of the Taxonomy Regulation and the Commission's explanations of its legislative proposal, are not in themselves very useful in answering the question of whether, and if so to what extent, waste incineration for energy recovery in order to produce electricity and/or heat/steam can be considered sustainable or not within the meaning of the Taxonomy Regulation.

In this respect, reference should be made to the comments made in the context of systematic interpretation. It follows from this that the waste incineration for energy recovery can certainly contribute to the achievement of the environmental objective 'transition to a circular economy' pursuant to Article 9 d) and the environmental objective 'climate change mitigation' pursuant to Article 9 a) as well as the environmental objective 'pollution prevention and control' pursuant to Article 9 e) and can thus be considered sustainable pursuant to Article 3.[96]

Thus, waste incineration for energy recovery fulfils the objectives of the Taxonomy Regulation, so that the teleological interpretation also leads to the conclusion that waste incineration for energy recovery can be considered sustainable within the meaning of Article 3 of the Taxonomy Regulation.

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95 Recital 28 Taxonomy Regulation.

96 See point C. IV. 1.

PricewaterhouseCoopers Legal
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PricewaterhouseCoopers Legal AG Rechtsanwaltsgesellschaft (PwC Legal)
Standard Terms of Engagement (Version 1 July 2018)

1. Scope of Application
These Standard Terms of Engagement shall apply to all contracts between PwC Legal and the Client for the provision of legal services, except as otherwise expressly agreed in writing or as otherwise prescribed by law.

2. Scope and execution of the engagement
(1) The only client-lawyer relationship (contract) which comes into existence shall be the one between the Client and PwC Legal; this shall apply even if the Client has granted one of PwC Legal's lawyers a power of attorney to represent him in legal proceedings.

(2) Third parties may derive claims from contracts between PwC Legal and Client only when this is expressly agreed or results from mandatory rules prescribed by law. In relation to such claims, these Standard Terms of Engagement also apply to these third parties.

(3) In performing the engagement PwC Legal shall be entitled to utilize the services of professional experts and/or to delegate the authority granted to it.

(4) In the course of providing the services covered by this contract, PwC Legal may, at its discretion, draw on the resources and technical, professional and/or administrative support services of other firms of the international PricewaterhouseCoopers network and may disclose confidential information related to this contract accordingly. However, the provision of the services under this contract remains the responsibility of PwC Legal alone. Therefore, claims can only be asserted against PwC Legal, but not against any other firm of the international PricewaterhouseCoopers network, its partners or professional staff.

(5) PwC Legal shares professional expertise and administrative facilities with PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft ("PwC"). In view of the close cooperation between the companies, it may be necessary for PwC Legal to inform PwC that PwC Legal acts for the Client and discloses certain details about the client relationship. All of the employees of PwC are subject to a professional duty to keep such information confidential. Thus when the Client engages PwC Legal to act for the Client, the Client also releases PwC Legal from its professional duty of confidentiality as far as PwC and its employees are concerned.

(6) The consideration of foreign law requires an express agreement, in writing or text form.

3. The Client's Obligation to cooperate
The Client shall ensure that all documentation necessary for the performance of the engagement are provided to PwC Legal on a timely basis, and that PwC Legal is informs of all events and circumstances that may be of significance to the performance of the engagement. This also applies to those documents, events and circumstances that first become known during the course of PwC Legal's work.

4. Reporting and oral information
To the extent PwC Legal is required to present results in writing as part of the work in executing the engagement, only that written work is authoritative. Drafts are non-binding. Except as otherwise agreed, oral statements and explanations by PwC Legal are binding only when they are confirmed in writing. Statements and information of PwC Legal outside of the engagement are always non-binding.

5. Distribution of professional statements of PwC Legal
(1) The distribution to a third party of professional statements of PwC Legal (results of work or extracts of the results of work whether in draft or in a final version) or information about PwC Legal acting for the Client requires the written consent of PwC Legal, unless the Client is obligated to distribute or inform due to law or a regulatory requirement.

(2) The use of professional statements of PwC Legal by the Client for promotional purposes and of information about PwC Legal acting for the Client is prohibited

6. Liability and Limitation Period
(1) Insofar no individual contractual limitation of liability exists, the liability of PwC Legal and the lawyers employed by PwC Legal for claims for damages of any other kind, except for damages resulting from injury to life, body or health as well as for damages that constitute a duty of replacement by a producer pursuant to § 1 ProdHaftG [German Product Liability Act: Produkthaftungsgesetz], for an individual case of damages caused by ordinary negligence is limited to € 10 million pursuant to § 52 Abs. 1 S. 1 Nr. 2 BRAO.

(2) PwC Legal and the lawyers employed by PwC Legal are entitled to invoke demurs and defenses based on the contractual relationship with the engaging party also towards third parties.

(3) A claim for damages expires if a suit is not filed within six months subsequent to the written refusal of acceptance of the indemnity and the Client has been informed of this consequence. This does not apply to claims for damages resulting from intentional and grossly negligent conduct, a culpable injury to life, body or health as well as for damages that constitute a liability for replacement by a producer pursuant to § 1 ProdHaftG. The right to invoke a plea of the statute of limitations remains unaffected.

7. Confidentiality towards third parties, and data protection
(1) Pursuant to the law (§ [Article] 43 a Abs. 2 [paragraph 2] BRAO [Federal Lawyers' Act: Bundesrechtsanwaltsordnung], § 203 StGB [German Criminal Code: Strafgesetzbuch], PwC Legal, its lawyers and its other staff are obligated to maintain confidentiality regarding facts and circumstances confided to them or which they become aware in the course of the professional work, unless the Client releases PwC Legal from its confidentiality obligations.

(2) When processing personal data, PwC Legal will observe national and European legal provisions on data protection.

8. Electronic communication
(1) Communication between PwC Legal and the Client may be via e-mail. In the event that the Client does not wish to communicate via e-mail or sets special security requirements, such as the encryption of e-mails, the Client will inform PwC Legal in writing (*Textform*) accordingly.

(2) If a communication is transmitted via e-mail, neither contracting party shall derive any claims from the fact e-mail massages may be read, modified or forged by a third party, that it has been lost or that it may contain viruses.

9. Applicable Law and Place of Jurisdiction
(1) This contract, the performance of the services and all claims resulting therefrom are exclusively governed by German law.

(2) Exclusive place of jurisdiction for any action or other legal proceedings arising out of or in connection with this contract shall be Frankfurt am Main.

10. Reporting obligations
The German implementation of the EU Directive 2018/822/EU (DAC6) has led to the introduction of new regulations in the German Fiscal Code (sections 138d et seq.). These can trigger reporting obligations for PwC Legal and for the Client if the services relate to cross-border arrangements that meet the requirements laid down in the law.

If Client is subject to a reporting obligation pursuant to sections 138d et seq. of the German Fiscal Code, Client releases PwC Legal from its duty of confidentiality vis-à-vis the German tax authorities or those of other EU Member States for the purpose of reporting the arrangements, insofar as PwC Legal has become aware of them in connection with the subject matter of the engagement and PwC Legal considers them to be reportable. PwC Legal will inform Client once PwC Legal considers an arrangement to be reportable..

11. Dispute Settlement
PwC Legal is not prepared to participate in dispute settlement procedures before a consumer arbitration board (Verbraucherschlichtungsstelle) within the meaning of § 2 of the German Act on Consumer Dispute Settlements (Verbraucherstreitbeilegungsgesetz).