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At the request of
EasyMining Services Sweden AB

LEGAL OPINION
on
the use in Animal Feed of inorganic phosphates recovered from sewage sludge incineration ash or from MSW incineration ash

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Background

1. The Client is EasyMining Services Sweden AB based in Uppsala, Sweden. According to its website the Client is an innovation company dedicated to closing nutrient cycles by specialising in developing, designing, and building patented processes for production of clean commercial products from waste.

2. One of their initiatives is "Ash2Phos" whereby their technology converts phosphorus in sewage sludge ash to calcium phosphate and other products. They regard it as a circular solution for recovering phosphorus from sewage sludge ash (the ash being a reliably produced, renewable mineral concentrate produced in the course of wastewater treatment). The aim is for the recovered phosphorus to be used in place of virgin phosphorus in order to reduce European dependence on imported phosphorus, which would help reduce carbon emissions, provide security of supply, and make the EU less vulnerable to wild price fluctuations.

3. The process of creating a product from waste clearly engages the EU waste law notion of "End of Waste", as now contained in Article 6 of the Waste Framework Directive 2008/98/EC (hereafter "WFD"). Moreover, if such recovered phosphates were to be used in animal feed then such use would also engage EU laws on Animal Feeds, principally the Animal Feeds Regulation 767/2009 (hereafter "AFR").

4. The purpose of this Opinion is to consider both of these layers of regulation and to indicate whether one prevails over the other; in particular, whether certain provisions of the AFR effectively prohibit the use of waste-derived phosphates in feed.

5. In this Opinion we shall consider ash resulting from the incineration of Urban Waste Water Treatment-derived sewage sludge in the context of both the AFR and the WFD.

The AFR Prohibition

6. The AFR provides at Article 6 that "**Feed shall not contain or consist of materials whose placing on the market or use for animal nutritional purposes is restricted or prohibited**", with the list of such materials being contained in Annex III.

7. Paragraph 5 of Annex III details one of the prohibited materials and is in the following terms:

> "All waste obtained from the various phases of the treatment of the urban, domestic and industrial waste water [...[1]], , **irrespective of any further processing of that waste** and irrespective of the origin of the waste waters." **[underlining emphasis added]**

8. On the face of it, the provision clearly threatens to scupper the use in animal feed of phosphorus recovered from sewage sludge ash, as both the incineration of the sludge,

[1] as defined in Article 2 of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment. The UWWT Directive contains separate definitions of "urban waste water, "domestic waste water" and "industrial waste water". Its aims are to protect human health and the environment from the effects of untreated urban wastewater by requiring the collection and treatment of wastewater in all urban areas of more than 2000 people, and requiring secondary treatment of all discharges from urban areas of more than 2000 people.

and the recovery of phosphorus from the incineration ash, could be regarded as "further processing". It may, however, be possible to argue that the prohibition only applies to materials which retain their status as 'waste', allowing for the possibility of products which have achieved the status of "end of waste" not being caught by the prohibition.

History of the AFR Prohibition

9. As EU law is interpreted purposively, taking into account the aims of the legislation in question, it is useful to consider the evolution of the prohibition and the underlying policy drivers.

10. The wording of paragraph 5 of the AFR Annex has featured, with some modifications, in EU legislation since 1991, with the various main iterations being as set out in the following table:

Decision 91/516/EEC, Annex Pt. 5	5. Sludge from sewage plants treating waste waters
Commission Decision of 5th April 2000, amending Decision 91/516/EEC	5. All wastes obtained from the various phases of the urban, domestic and industrial waste water treatment process, irrespective of any further processing of these wastes and irrespective also of the origin of the waste waters.
Commission Decision 2004/217/EC, repealing 91/516/EEC	5. All wastes obtained from the various phases of the urban, domestic and industrial waste water as defined in Article 2 of Council Directive 91/271/EEC treatment process, irrespective of any further processing of these wastes and irrespective also of the origin of the waste waters.
AFR 767/2009	5. All waste obtained from the various phases of the urban, domestic and industrial waste water as defined in Article 2 of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment, irrespective of any further processing of such waste and irrespective also of the origin of the water.
Amended by Commission Regulation (EU) No 568/2010 of 29 June 2010	5. All waste obtained from the various phases of the treatment of the urban, domestic and industrial waste water, as defined in Article 2 of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment, irrespective of any further processing of that waste and irrespective of the origin of the waste waters

11. As can be seen, the major innovation took place in 2000, and the recitals to the 2000 Commission Decision are instructive in identifying the reasons behind that change. So far as relevant, they were as follows:-

(3) Experience has proven the need to improve the safety of feed materials used in animal nutrition for public and animal health reasons, in particular in the light of recent reports of use in animal nutrition of sludge from plants treating waste waters.

(4) **No waste collected during and/or resulting from the various phases of the waste-water treatment process (physical, chemical and biological) can be considered as an acceptable source of animal feed, irrespective of any further processing of these wastes and irrespective also of the origin of the waste waters.**

(5) Although Decision 91/516/EEC prohibits the use of sludge from sewage plants treating waste waters as feed materials in compound feedingstuffs, it does not define the terms 'sludge' or 'sewage'. It is therefore desirable to clarify the text indicating that the prohibition not only applies to the sediments of the 'biological treatment' but also to other wastes collected during the pre-treatment as well as other physical and chemical treatments of the waste water. Moreover it is necessary to point out that the word 'sewage' does not refer only to waste water from municipal effluents but also to other waste water, including those from animal product processing plants' own water treatment plants.

12. The words "further processing" are not a defined term, and the recitals do not identify any particular "further processing" of UWWT waste which had proved problematic. Rather, the recitals refer only to reports of "sludge" from wastewater treatment plants being used in animal nutrition. The above recital 5 makes it clear that the expanded wording to be inserted into paragraph 5 is intended to be, in effect, a definition of "sludge", with the aim of clarifying that "sludge" should not be restricted to the sediments from biological treatment, but is to include other physical and chemical treatments of the waste water. As a result the prohibited material is "all waste" from any of the various phases of UWWT, and "irrespective of any further processing".

13. It might be tempting to seek to argue that any interpretation of the paragraph 5 prohibition should take account of the fact that the drafters of the 5th April 2000 Commission Decision simply cannot have intended to outlaw products of the quality which had become possible 20+ years later through technologies which were unknown in 2000. That approach might well have had some prospects of success had we been dealing with legislative wording dating only from 2000.

14. However, it is undeniable that the original wording has been adjusted and reused in 2004, 2009, and 2010. It is therefore difficult to argue that the meaning of the words used is merely a historical anachronism or accident, when the words have been deliberately finessed in several more recent legislative acts.

What type of material is prohibited?

15. The particular material which is prohibited in feed by virtue of paragraph 5 is [UWWT] "waste", irrespective of any further processing of "that waste". The essential characteristic appears to be that the material is, and remains "waste" (even after the "further processing").

16. It should also be noted that the prohibition relates to all waste "obtained **from the various phases of the treatment** of the urban, domestic and industrial waste water". The obviously supportive argument is that once sewage sludge has been transformed into ash by way of incineration, the "treatment" is at an end. If someone proceeds thereafter to carry out further processing or materials-recovery in relation to that ash, then such 'post-ash' processing can hardly be said to be part of a phase of treatment of urban waste waters.

17. Also, what if it is no longer "waste"? If a material has ceased to be "waste" (for example by having achieved the WFD "end of waste" test and thereby become a new product which has left the waste chain) it is difficult to justify the material still being classified as "waste"[2].

Relationship between AFR and WFD

18. A crucial consideration at the outset is (i) whether there is any overlap between AFR and WFD, (ii) whether there is any conflict between AFR and WFD, and (iii) which should prevail in the event of a conflict.

[2] And yet is exactly the position adopted by the Commission e.g. in the DG Sante reply of 9th September 2022 to the European Sustainable Phosphorus Platform, in which they acknowledge that nutrients may be recovered from sewage sludge but do not allow their analysis to progress beyond the assertion that "feeding of waste [sic] to farmed animals is prohibited".

19. An important indicator can be found in the WFD, which sets out exclusions from its own scope at Article 2.

20. Article 2(2) lists certain wastes which are excluded from the scope of the WFD "to the extent that they are covered by other Community legislation" (presumably to avoid unnecessary double regulation, and on the assumption that the "other Community legislation" adequately governs the treatment and management of the named waste streams which are being excluded from regulation under the WFD[3]).

21. For present purposes Article 2(2)(e) is relevant and provides that the following waste is excluded from the scope of the WFD to the extent that it is covered by other Community legislation, namely,

> "**substances that are destined for use as feed materials as defined in point (g) of [AFR] and that do not consist of or contain animal by-products**.[4]"

22. It is important to note that the exclusions in Article 2(2) of the WFD do not list material which is not waste, but rather materials which are merely excluded from the scope of the WFD, and then only to the extent that they are "covered" by other Community legislation.

23. The issue was examined fairly recently[5] by the European Court of Justice in the "Sappi Austria" case (C-629/19) which looked at the exclusion of "waste waters" under Article 2(2)(a). The Judgment contained the following paragraphs:

> 35 To be regarded as 'other [EU] legislation' within the meaning of Article 2(2)(a) of Directive 2008/98, the rules in question must not merely relate to a particular substance, but must contain precise provisions organising its management as 'waste' within the meaning of point 1 of Article 3 of Directive 2008/98. Otherwise, the management of that waste would be organised neither on the basis of that directive nor on that of another directive nor on that of national legislation, which would be contrary both to the wording of Article 2(2) of that directive and to the very objective of the EU legislation on waste (see, by analogy, as regards Article 2(1) of Directive 75/442, judgment of 10 May 2007, *Thames Water Utilities*, C-252/05, EU:C:2007:276, paragraph 33 and the case-law cited).

[3] See, below, the extracts from the "Sappi Austria" case (ECJ case reference C-629/19)
[4] The exclusion of ABPs is to avoid potential ambiguity, since ABPs are a separate exclusion under Article 2(2)(b) of the WFD
[5] In a judgment dated 14th October 2020

> 36 It follows that, for the EU rules in question to be regarded as constituting 'other [EU] legislation' within the meaning of Article 2(2) of Directive 2008/98, they must contain precise provisions organising the management of waste and ensure a level of protection which is at least equivalent to that resulting from that directive (see, to that effect, judgment of 10 May 2007, *Thames Water Utilities*, C-252/05, EU:C:2007:276, paragraph 34 and the case-law cited).

24. It is apparent, therefore, that the conditional exclusion from the scope of the WFD under Article 2(2) only applies if the other legislation manages the materials in such a way that it achieves no less a degree of environmental protection.

25. Article 2(2)(e) is a relatively recent addition to the list of those wastes excluded from the scope of the WFD by virtue of being covered by other Community legislation. It was introduced within the Circular Economy 'package' of amendments to waste legislation[6] and contained in Directive 2018/851, which required Member State transposition by 5th July 2020.

26. The relevant recital in relation to its introduction is as follows:

> "Plant-based substances from the agri-food industry and food of non-animal origin no longer intended for human consumption which are destined for oral animal feeding should, in order to avoid duplication of rules, be excluded from the scope of Directive 2008/98/EC if in full compliance with Union feed legislation. Directive 2008/98/EC should therefore not apply to those products and substances when used for feed, and the scope of that Directive needs to be clarified accordingly." [7]

27. There is nothing in the above recital to indicate that either the recital or the new exclusion had in mind those materials resulting from the incineration of sewage sludge ash: the recital refers only to plant-based substances and food of non-animal origin no longer destined for human consumption.

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[6] Comprising (a) Directive 2018/849 of May 30, 2018, amending Directives 2000/53/EC on end-of-life vehicles; 2006/66/EC on batteries and accumulators and waste batteries and accumulators; and 2012/19/EU on waste electrical and electronic equipment; (2) Directive 2018/850 of May 30, 2018, amending Directive 1999/31/EC on the landfill of waste; (3) Directive 2018/851 of May 30, 2018, amending Directive 2008/98/EC on waste; and (4) Directive 2018/852 of May 30, 2018, amending Directive 94/62/EC on packaging and packaging waste.

[7] Recital 8 from Directive 2018/851

28. Further background is available in Commission Notice 2018/C 133/02 of 16th April 2018 containing 'Guidelines for the feed use of food no longer intended for human consumption'. It was issued at a time when the introduction of the above new exclusion into the WFD was still a proposal. It refers to a consultation exercise which highlighted disproportionate burdens from potential double regulation (under both Feed and Waste regimes) which could hinder or even prevent operators supplying food no longer intended for human consumption to be used as feed.

29. Those Guidelines give the example of a food business operator deciding that biscuits which have become broken should be withdrawn from sale as food and instead destined for use as feed. The Commission asserts that certain Member States would, in such circumstances, regard the decision to remove the broken biscuits from the food supply chain as 'discarding' the food and consequently require the transportation of the biscuits to comply with the WFD in relation to movements of waste. The Guidelines accordingly declare that (subject to the implementation of what was to become the new Article 2(2)(e)), the direct feed use of such final food products will be allowed, and waste management controls would cease to be required.

30. Although the recital refers rather more specifically to "plant-based substances from the agri-food industry" and "food of non-animal origin", Article 2(2)(e) itself refers simply to "substances". In order to fall within the new exclusion, the "substances" have to be "destined for use as feed materials", which obviously begs the question 'when is a substance destined for use as feed material?'

"Destined for use"

31. The word "destined" features regularly in this, and related, areas of EU Law, with examples including "destined for use as feed", "destined for incineration", and "destined for subsequent reprocessing". At what point can we say that a substance is "destined" for use as feed material?

32. We are not aware of the word having been given a meaning by the ECJ other than its plain, ordinary meaning. Clearly "destined" is to be contrasted with "predestined", with

the latter connoting something which is fated to happen. "Destined", on the other hand, is presumed to have its plain, ordinary dictionary meaning of "intended (for a particular purpose) ", and arguably with a degree of certainty as to that intended purpose.

33. It is therefore difficult to conceive of something becoming "destined for use as feed" merely by accident. Rather, it (arguably) requires some degree of choice and also of preparation, in that a conscious act is required by the person having control of the material to pronounce that it is, from some particular point of readiness, now "destined" for that specific end use.

34. Looked at in this way, it is relatively easy to see that the substances contemplated by Article 2(2)(e) are materials which might (but for Article 2(2)(e)) be regarded as "waste", but for which there is no justification in burdening their holder with waste controls, so long as compliance with Feed legislation alone will achieve the necessary level of protection.

35. Accordingly, waste controls cease to apply (in the sense that materials fall within Article 2(2)(e)) only at the very end of the process, when the operator is satisfied that they meet all the necessary criteria to be supplied as feed, and are at that point "destined" for that use. The processes of incinerating sewage sludge, or processing the resulting ash in order to extract phosphorus, will therefore continue to be subject to the WFD.

Waste Framework Directive

36. We now consider the application of the WFD to UWWT-derived incinerator ash and products extracted or manufactured from it. "Waste", under the WFD, means "any substance or object which the holder discards or intends or is required to discard". As the ECJ has repeatedly said in every case concerning waste, "the scope of the term waste… turns on the meaning of the term 'discard'..."[8] and "the concept of waste cannot be interpreted restrictively"[9].

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[8] See Case C-129/96 *Inter-Environnement Wallonie* [1997] ECR I-7411, paragraph 26, as quoted in most subsequent waste cases.

[9] See Joined Cases C-418/97 and C-419/97 *ARCO Chemie Nederland and Others* [2000] ECR I-4475, paragraphs 37 to 40, and Case C-9/00 *Palin Granit and Vehmassalon kansanterveystyön kuntayhtymän hallitus* [2002] ECR I-3533, '*Palin Granit*', paragraph 23), which implies a strict interpretation of the exceptions to the concept of waste.

37. Several ECJ cases have explored the circumstances where a substance which might appear to have been "discarded" has in fact not been discarded. It is not enough that the material has a practical and monetary value – that on its own will not be conclusive in relation to whether the material is "waste". The focus in those cases has generally been on either (a) materials which have undergone a recovery process and been turned into a new product for which waste controls need not apply (the so-called "End of Waste" test) or (b) production residues (which might be better classified as "By-Products").

38. The 2008 version of the WFD, in light of those ECJ decisions, introduced for the first time statutory provisions in relation to both "End of Waste" and "By Products".

By Products test

39. As well as introducing an "End of Waste" test for recovered materials, the 2008 version of the WFD[10] also introduced a "By Products" test to the effect that a substance or object, resulting from a production process, the primary aim of which was not the production of that item, may be regarded as a non-waste by-product if (but only if) the following conditions are met:

    (a) further use of the substance or object is certain;

    (b) the substance or object can be used directly without any further processing other than normal industrial practice;

    (c) the substance or object is produced as an integral part of a production process; and

    (d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

40. There are difficulties in seeking to apply the By Products test to the incineration of sewage sludge, primarily as a result of the legal requirement that the materials must result from a "production process", since pure incineration as a means of disposing of

[10] At Article 5

waste would primarily be regarded as a waste disposal process rather than as a production process.

41. That is not to say that ash can never qualify as a By Product, but it depends on establishing the existence of a "production process". (We are aware of ash-as-fertiliser materials which have successfully sought By Product status from waste regulators. One example is a distillery fuelled by a biomass boiler, where the boiler ash was capable thereafter of being utilised as fertiliser. In such examples, though, the boiler is an integral part of the distillery and of the whisky production process, thus opening up the possibility of the By Products avenue being available.)

42. Whilst it is not impossible for the process of UWWT to be regarded as a production process in certain circumstances[11], it seems unlikely that the further processing of ash in order to extract valuable materials could ever meet the second criterion of the By-Products test, namely, that the substance can be used "directly without any further processing".

End of Waste test

43. The WFD End of Waste ("EOW") test is contained in article 6 WFD, consisting of 5 numbered paragraphs. The first paragraph sets out the initial requirements, which are in the following terms:-

> **1. Member States shall take appropriate measures to ensure that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste if it complies with the following conditions:**
> **(a) the substance or object is to be used for specific purposes;**
> **(b) a market or demand exists for such a substance or object;**
> **(c) the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and**
> **(d) the use of the substance or object will not lead to overall adverse environmental or human health impacts.**

[11] The "Sappi Austria" case referred to at [paragraph 21] above involved a production process where waste water from paper and pulp production was treated on-site. The sludge might well have been able to satisfy the By Products test, but for the fact that the sewage treatment plant in question also treated a small element of municipal waste waters, which became mixed with the waste water from the paper plant.

44. The first requirement is that the waste has undergone a recycling or other recovery operation. For present purposes it is difficult to regard either of the initial two parts of the overall process (whereby (1) waste waters are treated under the UWWTD, resulting in sewage sludge and (2) sewage sludge is then transformed into ash by incineration) as anything other than a "disposal" operation[12] with the EOW test accordingly being inapplicable.

45. However, there is no reason why the resulting ash should not be regarded as a candidate for the EOW test. After all, the recitals to the WFD appear to be inviting us to do so. These include the following:

> Recital (8) to 2008/98: "Furthermore, the recovery of waste and the use of recovered materials should be encouraged in order to conserve natural resources."
>
> Recital (19) to 2008/98: "The definitions of recovery and disposal need to be modified in order to ensure a clear distinction between the two concepts, based on a genuine difference in environmental impact through the substitution of natural resources in the economy and recognising the potential benefits to the environment and human health of using waste as a resource."
>
> Recital (22) to 2008/98: "[T]his Directive should clarify when certain waste ceases to be waste, laying down end-of-waste criteria that provide a high level of environmental protection and an environmental and economic benefit; possible categories of waste for which 'end-of-waste' specifications and criteria should be developed are, among others, construction and demolition waste, some **ashes** and slags, scrap metals, aggregates, tyres, textiles, compost, waste paper and glass."
>
> and
>
> Recital (22) to 2008/98: "For the purposes of reaching end-of-waste status, a recovery operation may be as simple as the checking of waste to verify that it fulfils the end-of-waste criteria."

46. The above appears to suggest that, in relation to ash resulting from the incineration of sewage sludge, it may be possible to (1) regard the ash as a potential product, and (2) adapt a product-specific EOW test for the ash that meets the legal criteria for Article 6 WFD.

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[12] Namely, "incineration on land" as referred to in WFD Annex 1, item D10.

47. Moreover, we have since had the benefit of the amendments to the WFD introduced as part of the Circular Economy "package" of measures, including Directive 1018/851 which introduced amendments to the WFD and to the EOW test itself. The recitals to that Directive include the following:

> Recital (2): "Improving the efficiency of resource use and ensuring that waste is valued as a resource can contribute to reducing the Union's dependence on the import of raw materials and facilitate the transition to more sustainable material management and to a circular economy model.
>
> Recital (17): "In order to provide operators in markets for secondary raw materials with more certainty as to the waste or non- waste status of substances or objects and to promote a level playing field, it is important that Member States take appropriate measures to ensure that waste that has undergone a recovery operation is considered to have ceased to be waste if it complies with all the conditions laid down in Article 6(1) of Directive 2008/98/EC as amended by this Directive."

48. The End of Waste criteria introduced in 2008 originally envisaged that EU-wide EOW criteria would be developed for specific recovered products by the European Commission[13], and further provided that where such criteria had **not** been set at Community level, Member States could decide on a case-by-case basis whether certain waste had ceased to be waste, taking into account applicable case law.

49. The EOW criteria in the WFD have now been further modified as a result of Directive 2018/851. That Directive made some fairly major changes to the EOW provisions in Article 6 of the WFD, and had a transposition deadline of 5th July 2020. Those are the applicable provisions for present purposes, with the first paragraph being set out at [paragraph 41 above]. For ease of reference, the modified Article 6 is set out in full in the Annex to this Opinion.

50. In order to satisfy the EOW test for UWWT-derived ash and materials recovered from it, evidence would have to be supplied to demonstrate how each criterion is met. We

[13] So far, this has only been achieved in relation to three waste streams, namely, (a) iron, steel and aluminium scrap, (b) glass cullet, and (c) copper scrap, the last of these being back in 2013.

do not propose looking into the specifics of such a test in this Opinion. As ever with the EOW test, the principal challenge usually arises in relation to criteria (c) and (d) to show equivalence of product standard and environmental impact as between a waste-derived product and its virgin equivalent. No doubt suitably detailed testing would be necessary to demonstrate that any potentially harmful elements had been removed.

51. The revised Art. 6 wording adds certain elements of detail to the EOW test including in the following respects:-

(a) Previously, it was not entirely clear whether the criteria in Article 6.1 were to inform all domestic case-by-case decisions, or whether those criteria were only intended to apply to Community-wide measures such as those mentioned in footnote [12]. Now, however, Member States must take appropriate measures to "ensure" that EOW status is accorded to products which meet the Article 6.1 criteria i.e. it is clear that these are the domestic criteria applicable in each Member State.

(b) Article 6.2 also contains detailed criteria labelled (a) to (e) to be taken into account not only by the Commission when setting EU-wide EOW criteria, but also by Member States (under Article 6.3) when setting any national criteria. These include a requirement for "*quality criteria .... in line with the applicable product standards*".

(c) Where a Member State has not set a national standard, it may proceed on a case-by-case approach, but under Article 6.4 such an approach is expected to apply both the Article 6.1 criteria AND the Article 6.2 criteria.

(d) Article 6.5 is completely new and places an obligation on the person who places a non-waste material on the market for the first time to ensure that it meets the applicable product legislation[14].

[14] This is a factor that would have to be considered in framing any ash-specific EOW test. This may include not just meeting fertilizer product specifications, but in a more general sense potentially seeking approval under the REACH regime (i.e. EC Regulation No 1907/2006 of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals), which generally becomes applicable to a former "waste" which is now a "product". Exemptions may be possible where in effect the same product has been registered before, and specialist advice should be sought on REACH.

(e) There is no longer any reference to individual decisions being taken on the basis of "applicable case law". EOW decisions now have to be taken in accordance with the criteria set out in the Directive. To that extent it may remove an element of 'wriggle room' associated with the interpretation of case law.

52. It therefore appears that there is no reason why phosphorus recovered from UWWT-derived ash cannot be the subject of a detailed EOW submission pursuant to the WFD, with a view to demonstrating that it meets all elements of the EOW test.

53. The overall legal analysis would then be that

- Materials recovered from UWWT incineration ash are demonstrated to meet their bespoke EOW test
- As a result they are no longer "waste"
- By way of harmless legal duplication, not only do they cease to be waste because they have achieved EOW status, but they also thereby become "substances that are destined for use as feed materials", and separately fall outside waste controls by virtue of Article 2(2)(e) of the WFD
- They are not caught by the AFR prohibition relating to "waste" obtained from UWWT "irrespective of any further processing of that waste" as they are no longer 'original' waste or 'processed' waste, but new non-waste products.

What difference would it make if the ash was Municipal Solid Waste incineration ash ?

54. If the ash source were to be ash resulting from the incineration of Municipal Solid Waste (rather than from the incineration of UWWT sludge), then clearly paragraph 5 of Annex III to the AFR would no longer be engaged. One related question would be whether the immediately following paragraph in Annex III would be engaged in its place, which is in the following terms:

"6. Solid urban waste [but not catering waste], such as household waste."

55. There is no guidance within the AFR on precisely what is meant by "solid urban waste", but it would appear to be generally synonymous with "Municipal Solid Waste". It would clearly apply to the typical wastes collected from domestic and commercial premises in an urban setting. Indeed, "household waste" is given in AFR Annex III paragraph 6 as an example of what is prohibited. The related question is whether the prohibition would continue to apply to the residues resulting from the incineration of that waste, which it might be argued are still "solid", at least in the state-of-matter sense that the ash is not a liquid or a gas. Might the ash still qualify as "solid urban waste"?

56. Some interpretive assistance may be derived from the WFD, which introduced[15] a definition of "municipal waste"[16] by virtue of Directive 2018/851. As can be seen from the footnoted definition, there is no suggestion of the definition extending to anything other than the waste in its original form, pre-processing (other than sorting for the purposes of separate collection), and certainly not extending to the residues left after waste treatment, still less to materials extracted from those residues.

57. Further interpretive assistance may also be derived from the Industrial Emissions Directive 2010/75/EU which contains a chapter (comprising Articles 42-55) devoted to waste incineration plants. The Directive defines "waste" by reference to the WFD, but also defines "residues" in Article 43 as meaning "any liquid or solid waste which is generated by a waste incineration plant or waste co-incineration plant."

58. In the context of the inter-relationship between difference pieces of legislation including UWWTD, AFR, WFD, and IED, the choice of words used in AFR Annex III paragraph 6

[15] as part of new provisions relating to recycling targets
[16] In Article 3(2b) which is in the following terms:
'municipal waste' means:
(a) mixed waste and separately collected waste from households, including paper and cardboard, glass, metals, plastics, bio- waste, wood, textiles, packaging, waste electrical and electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture;
(b) mixed waste and separately collected waste from other sources, where such waste is similar in nature and composition to waste from households;
Municipal waste does not include waste from production, agriculture, forestry, fishing, septic tanks and sewage network and treatment, including sewage sludge, end-of-life vehicles or construction and demolition waste.

would suggest no intention for its terms to be extended to the IED "residues" resulting from waste incineration.

59. In the absence of a specific AFR prohibition, and with MSW ash not being a category of waste excluded from the scope of the WFD, the way would appear to be clear for a bespoke EOW test to be developed for the recovered products.

What difference would it make if the ash was from incineration of Cat.2 or Cat.3 ABPs[17]?

60. Articles 13 and 14 of the ABPR set out the allowable disposal and use options for dealing, respectively, with Cat.2 and Cat.3 ABPs. The first option under both Articles is for the materials to be "disposed of as waste by incineration".

61. ABPs are excluded from the scope of the WFD by virtue of Article 2(2)(b) to the extent that they are covered by other Community legislation, but with an important exception, as follows:

> "animal by-products including processed products covered by Regulation (EC) No 1774/2002[18], **except those which are destined for incineration,** landfilling or use in a biogas or composting plant" [emphasis added]

62. Accordingly, once ABPs are destined for incineration, it is apparent from the WFD that the WFD should regulate the management of the materials from that point onwards.

63. This approach is bolstered by a recent ruling from the ECJ in its 23 May 2019 Judgment in Case C-634/17 ReFood GmbH & Co. KG -v- Landwirtschaftskammer Niedersachsen, which says the following [at paragraphs 46 and 47]:

> [46] However, as is apparent in essence from recitals 12 and 13 of the [WFD], the EU legislature considered that Regulation No 1774/2002 **[i.e. the predecessor of the current ABPR]** provided for proportionate rules, in particular, for the carriage of all animal by-products, including waste of animal origin, in order to prevent such waste from presenting a risk to animal and public health, and, in the light of the experience gained in the application of that regulation, considered that, in cases where such by-products pose potential health risks, that appropriate legal instrument for this type of

[17] That is, animal by products as defined in the Animal By Products Regulation 1069/2009 ("ABPR")
[18] Regulation 1774/2002 was the previous iteration of the ABPR 1069/2009, itself repealed by Regulation 1069/2009

risk was, in principle, that very regulation, so that duplication of rules and unnecessary overlaps with the legislation on waste should be avoided, by excluding from the scope of Directive 2008/98 animal by-products where they are intended for uses that are not considered waste operations.

[47] Accordingly, Article 2(2)(b) of [WFD] excludes animal by-products, including processed products covered by Regulation No 1774/2002, from the scope of that directive, with the sole exception of those which are destined for incineration, landfilling or use in a biogas or composting plant, thus highlighting the intention of the EU legislature to separate, in principle, animal by-products from the scope of legislation on waste.

64. It is therefore clear both from the legislation and from the ECJ's interpretation of it that ABPs destined for incineration fall to be regulated, from that point, as "waste" under the WFD so that, as the ECJ states, "*duplication of rules and unnecessary overlaps* is avoided".

65. If follows, with the WFD being engaged, that the above comments in relation to End of Waste apply with equal force to materials extracted from ABP-derived incineration ash as they do in relation to materials extracted from UWWT-derived incineration ash, meaning the way would appear to be clear for a bespoke EOW test to be developed for the recovered products.

Possible restriction (1) – catering waste

66. It is possible that a material recovered from ABP-derived incineration ash might be prevented from being used if there were a prohibition to that effect within the ABPR or related legislation. One such provision might be Article 11 of the ABPR which provides as follows:

> **Restrictions on use**
>
> **1. The following uses of animal by-products and derived products shall be prohibited:**
>
> **(a) the feeding of terrestrial animals of a given species other than fur animals with processed animal protein derived from the bodies or parts of bodies of animals of the same species;**
>
> **(b) the feeding of farmed animals other than fur animals with catering waste or feed material containing or derived from catering waste;**
>
> **(c) the feeding of farmed animals with herbage, either directly by grazing or by feeding with cut herbage, from land to which organic fertilisers or soil improvers, other than manure, have been applied unless the cutting or grazing takes place after the expiry**

of a waiting period which ensures adequate control of risks to public and animal health and is at least 21 days; and
(d) the feeding of farmed fish with processed animal protein derived from the bodies or parts of bodies of farmed fish of the same species.

67. Although the ABPR does not define "catering waste", it seems relatively safe to assume that it is referring to left-over food produced by restaurants, takeaways, canteens and other food businesses. Consequently, the above prohibition is not engaged where the materials are products extracted from ash resulting from the incineration of Cat.2 and Cat.3 ABPs – and therefore not feed "derived from catering waste".

Possible restriction (2) – ABPR Implementing Regulation

68. Another potential candidate containing legal prohibitions might the ABPR Implementing Regulation 142/2011[19].

69. Its Article 6 contains implementing measures in relation to the disposal of ABPs by incineration. It provides that incineration plants shall only be approved if they comply with the requirements set out in Annex III, which include

- the following (at Annex III, Chapter I, Section 1, paragraph 3):
  "Animals must not have access to the plants, animal by-products and derived products that are awaiting incineration or co-incineration ***or to ash resulting from the incineration or co-incineration of animal by-products."***

- the following (at Annex III, Chapter I, Section 3.1) headed "Incineration and co-incineration residues":
  "Incineration and co-incineration residues shall be minimised in their amount and harmfulness. Such residues must be recovered, where appropriate, directly in the plant or outside it in accordance with relevant Union legislation or disposed of in an authorised landfill."

70. It is therefore apparent that the underling policy does not insist upon the ash residues being landfilled and appears to give approval to the residues being "recovered" (as

[19] At various points (e.g. Articles 15, 21, 27, 40, 42) the ABPR anticipates that detailed "implementing measures" will be laid down by means of a separate Regulation, and the principal implementing Regulation is Regulation 142/2011.

distinct from being landfilled, and so long as the recovery does not permit animals to have access to the ash), although the requirement to "minimise" the amount of such residues suggests that the production of the ash residues, according to the original version of the Implementing Regulation, is not exactly being encouraged.

71. Nevertheless, incineration will necessarily (in practice) produce ash, and the Implementing Regulation does not present a barrier other than in relation to feeding ash to animals. It does not contain any express restriction on materials *recovered* from that ash being used in feed.

Possible restriction (3) – TSE Regulation

72. A further potential candidate containing legal prohibitions might be the TSE Regulation[20] which contains certain prohibitions concerning animal feeding at Article 7 which provides as follows:

> *1. The feeding to ruminants of protein derived from animals shall be prohibited.*
> *2. The prohibition provided for in paragraph 1 shall be extended to animals other than ruminants and restricted, as regards the feeding of those animals with products of animal origin, in accordance with Annex IV.*

73. Annex IV then provides:

> *Extensions of the prohibition provided for in Article 7(1)*
> *In accordance with Article 7(2), the prohibition provided for in Article 7(1) shall be extended to the feeding:*
> *(a) to ruminants of* ***dicalcium phosphate and tricalcium phosphate of animal origin and compound feed containing these products****;*
> *(b) to non-ruminant farmed animals, other than fur animals, of:*
> *(i) processed animal protein;*
> *(ii) blood products;*
> *(iii) hydrolysed protein of animal origin;*
> *(iv) dicalcium phosphate and tricalcium phosphate of animal origin;*
> *(v) feed containing the products listed in points (i) to (iv)*

[20] Regulation (EC) No 999/2001 laying down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies

74. The above provision speaks for itself and we therefore assume that the phosphates processed from the recovered materials do not comprise either of the above types.

Other compliance requirements

75. For present purposes we are assuming that the ash results from an incineration process which complies in all respects with the Industrial Emissions Directive[21]. If ash is to be collected, transported, stored and subjected to further treatment in order to extract valuable materials, we also assume that those aspects fully comply with IED permit requirements[22], and with WFD permitting and compliance requirements, and that the issue of whether the ash contains hazardous substances will have been fully addressed.

76. Concluding, as we do, that the AFR does not prohibit the use in of the recovered materials in feed, we do not intend examining the compliance aspects of the AFR itself in any further detail. Nor do we seek in this document to examine the details of any successful "End of Waste" case. We merely assume that EOW approval is achieved. It is also assumed that the new non-waste "product" resulting from the EOW process is registered, evaluated and generally dealt with as required in accordance with the REACH regulation[23].

Taking things forward

77. As the Commission regularly remind us, they cannot rule on matters of legal interpretation, which are solely the responsibility of the Court of Justice. They can, of course, influence and initiate the procedures for legislative changes. There will therefore be merit in seeking clarification from the Commission as to whether they agree with the above legal analysis, and for them to be invited to explain "if not, why not".

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[21] Directive 2010/75/EU – which requires at Article 44, amongst other things, that an application for a permit for a waste incineration plant should describe the measures which will ensure that residues will be recycled.

[22] Article 53(3) of the IED requires that "prior to determining the routes for the disposal or recycling of the residues, appropriate tests shall be carried out to establish the physical and chemical characteristics and the polluting potential of the residues".

23 Regulation 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

78. We noted a questionable response from the Commission in their email to EasyMining's consultants dated 8th September 2022, responding to a meeting request to discuss market restrictions on recovered phosphorus created by AFR Annex III. In the response the Commission representative asserts (1) that whilst one of the restrictions to the use of products derived from waste is AFR Annex III **[which is correct]**, waste is regulated by WFD and animal-origin waste by ABPR **[which is also correct]**, and (2) that WFD and ABPR list waste among the substances that cannot be used in animal nutrition, even after treatment or transformation **[this being the part of their response which is <u>not</u> correct]**. Their conclusion is that so long as the prohibitions contained in these pieces of legislation are in place, a possible amendment to Annex III of Regulation 767/2009 cannot be discussed.

79. The assertion that WFD and ABPR list waste among the substances that cannot be used in animal nutrition, even after treatment or transformation is incorrect for the following reasons:

- The WFD imposes no such restriction.
- The ABPR prohibits feed "derived from catering waste", not other waste.
- Neither piece of legislation uses the words "even after treatment or transformation". This appears to be perhaps an oblique, and incorrect, reference to AFR Annex III point 5 ("irrespective of any further processing of that [UWWT-derived] waste"), which for the reasons contained above does not amount to such a prohibition for EOW-compliant non-waste materials.

80. It appears that the Commission is trying to 'have its cake and eat it' in the sense of recognising the concept of EOW but denying its applicability when it suits them[24], and is in effect saying [to paraphrase, obviously], *"Yes, we recognised through the WFD EOW test [having been forced to react to several successful court challenges in the ECJ] that a material which was once waste CAN of course be transformed into a*

[24] Despite there being no such restrictions in the legislation other than, possibly, in relation to those substances which fall outside the scope of the WFD (i.e. with EOW now being on a statutory footing under the WFD, the question arises as to whether a material which is excluded from the scope of the WFD can make use of the EOW provisions).

completely new product which is no longer a waste; but we don't like the idea of that approach being taken with any animal feed ingredients so, instead, we will take the view that something which was once part of any "waste" is not in fact capable of EVER being transformed into a new non-waste product, so we will simply call it a form of processed waste and it shall remain forever tainted as waste and assumed to be harmful, even when it demonstrably isn't."

81. The Commission's assertion ("even after treatment or transformation") is not supported by the present legislation or by any ECJ decision. Had there been legislation or a court decision to the effect that even "transformation" of material extracted from former waste (presumably "transformed" through EOW into a new raw material which isn't waste) still made it impossible for the material to form part of animal feed, then that would be a very different legal landscape. But it is not what the law currently states.

82. If the Commission happened to agree with our above analysis, then it would open the door to the possibility of EU-wide EOW criteria being developed. However, it should be noted that under Article 6.2 WFD the Commission is obliged to "monitor the development of national end-of-waste criteria in Member States, and assess the need to develop Union-wide criteria on this basis". Whilst it would no doubt be most convenient for EasyMining if the Commission were to establish EOW criteria at EU level, the legislation would appear to indicate that efforts would first have to be made to agree EOW criteria with multiple Member States, in order to provide the Commission with something of which they can "monitor the development".

83. If the main barrier to progress is expected to be resistance not to EOW criteria but to the idea that EOW "products" might (despite no longer being "waste") still be thought to be affected by the AFR prohibition against UWWT "waste… irrespective of any further processing of that waste", it would be arguably useful if a Member State, being approached for EOW clearance and authorisation to use the end product in feed, took the view, via its competent authority or authorities, that the above prohibition applied (i.e. agreed with the Commission stance). That would enable EasyMining to raise court

proceedings locally, with a view to triggering a reference to the Court of Justice for a preliminary ruling[25].

84. Although litigation is almost always expensive, the advantage of a Court of Justice ruling in favour of EasyMining would be that, although strictly only resolving the issue in dispute with that particular Member State, such a ruling would in practice be deemed to resolve the issue of interpretation conclusively across the EU.

85. It should be noted that national first-instance courts are not obliged to refer matters of interpretation to the Court of Justice - they are at liberty to come to their own interpretation without external input. Only decisions of courts from whom there is no further right of appeal domestically are obliged to make a reference for a preliminary ruling. But it is certainly possible that the matter in dispute might be framed suitably narrowly, and perhaps with the national authorities being in agreement that resolving the matter would benefit from Court of Justice interpretation, that a first instance court could be persuaded to make a reference. Such an alignment of factors might result in the litigation costs being less than prohibitive.

[ ] 2024.

This is the Opinion of:

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Accredited (continuously since 2006) by the Law Society of Scotland as a specialist in Environmental Law

[25] Under Article 267 TFEU

ANNEX I

(NB. Those provisions labelled "M4" are amendments introduced by the 2018 Directive, while those labelled "B" are from the original 2008 WFD.)

Article 6

End-of-waste status

▼M4

1. Member States shall take appropriate measures to ensure that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste if it complies with the following conditions:

(a) the substance or object is to be used for specific purposes;

▼B

(b) a market or demand exists for such a substance or object;

(c) the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and

(d) the use of the substance or object will not lead to overall adverse environmental or human health impacts.

▼M4

2. The Commission shall monitor the development of national end-of-waste criteria in Member States, and assess the need to develop Union-wide criteria on this basis. To that end, and where appropriate, the Commission shall adopt implementing acts in order to establish detailed criteria on the uniform application of the conditions laid down in paragraph 1 to certain types of waste.

Those detailed criteria shall ensure a high level of protection of the environment and human health and facilitate the prudent and rational utilisation of natural resources. They shall include:

(a) permissible waste input material for the recovery operation;

(b) allowed treatment processes and techniques;

(c) quality criteria for end-of-waste materials resulting from the recovery operation in line with the applicable product standards, including limit values for pollutants where necessary;

(d) requirements for management systems to demonstrate compliance with the end-of-waste criteria, including for quality control and self-monitoring, and accreditation, where appropriate; and

(e) a requirement for a statement of conformity.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 39(2).

When adopting those implementing acts, the Commission shall take account of the relevant criteria established by Member States in accordance with paragraph 3 and shall take as a starting point the most stringent and environmentally protective of those criteria.

3. Where criteria have not been set at Union level under paragraph 2, Member States may establish detailed criteria on the application of the conditions laid down in paragraph 1 to certain types of waste. Those detailed criteria shall take into account any possible adverse environmental and human health impacts of the substance or object and shall satisfy the requirements laid down in points (a) to (e) of paragraph 2.
Member States shall notify the Commission of those criteria in accordance with Directive (EU) 2015/1535 where so required by that Directive.

4. Where criteria have not been set at either Union or national level under paragraph 2 or 3, respectively, a Member State may decide on a case-by-case basis, or take appropriate measures to verify, that certain waste has ceased to be waste on the basis of the conditions laid down in paragraph 1 and, where necessary, reflecting the requirements laid down in points (a) to (e) of paragraph 2, and taking into account limit values for pollutants and any possible adverse environmental and human health impacts. Such case-by-case decisions are not required to be notified to the Commission in accordance with Directive (EU) 2015/1535.
Member States may make information about case-by-case decisions and about the results of verification by competent authorities publicly available by electronic means.

▼M4
5. The natural or legal person who:
(a) uses, for the first time, a material that has ceased to be waste and that has not been placed on the market; or
(b) places a material on the market for the first time after it has ceased to be waste,
shall ensure that the material meets relevant requirements under the applicable chemical and product related legislation. The conditions laid down in paragraph 1 have to be met before the legislation on chemicals and products applies to the material that has ceased to be waste.