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## Mineral Products Association Response to Ofwat Consultation on Review of the Bioresources Market

### Introduction

The Mineral Products Association (MPA) is the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and silica sand industries. With the affiliation of British Precast, the British Association of Reinforcement (BAR), Eurobitume, MPA Northern Ireland, MPA Scotland and the British Calcium Carbonate Federation, it has a growing membership of 530 companies and is the sectoral voice for mineral products. MPA membership is made up of the vast majority of independent SME quarrying companies throughout the UK, as well as the 9 major international and global companies. It covers 100% of UK cement and lime production, 90% of GB aggregates production, 95% of asphalt and over 70% of ready-mixed concrete and precast concrete production. In 2018, the industry supplied £18 billion worth of materials and services and was the largest supplier to the construction industry, which had annual output valued at £169 billion. Industry production represents the largest materials flow in the UK economy and is also one of the largest manufacturing sectors.

Mineral products are well known to the water industry, with lime being widely used in the treatment of raw sludge, and before it goes for recycling to agricultural land. Within the MPA membership, cement producers use bioresources as a fuel and there is a lime producer that has invested in anaerobic digestion for the generation of electricity. Both of these operations have scope to increase use of bioresources. The majority of this response relates to the use of treated sludges in cement manufacture.

### Planning and Collaboration

MPA is particularly interested in Issue 4, Planning and Collaboration as set out in the consultation document, and welcomes the Ofwat preferred option 1 to “encourage greater collaboration”.

MPA believes the use of bioresources in cement manufacture offers a highly sustainable and environmentally positive use, as set out below. The issue for the cement sector to date has been the impact of policies such as the Renewable Heat Incentive and Renewables Obligation, which have actively incentivised valuable 100% biomass fuels such as bioresources out of the sector, towards other, less efficient, uses. If there is an opportunity for the benefits of bioresources use in cement manufacture to be recognised through greater collaboration, cement production could become a valuable bioresources market.

### Use of Bioresources in Cement Manufacture

To produce cement, limestone and clay raw materials are heated to volcanic temperatures (around 1450°C). This process is highly fuel intensive. Traditionally, the process has relied on coal, but across the UK today, 45% of the thermal energy demand in cement manufacture is sourced from a range of waste derived fuels, including some waste biomass fuels including sewage sludge.

Cement manufacture is not an incineration process. It utilises a technique known as coprocessing which not only utilises the energy content of the fuel, but also recycles the mineral content as a valuable part of the cement product. Coprocessing therefore generates

zero process waste and is highly thermally efficient. Processed Sewage Pellets (PSP) have been historically used as a cement fuel and the use of these waste-derived biomass fuels in cement manufacturing is as good as, if not a better, environmental option than agricultural use. Coprocessing therefore provides a more productive outlet for materials that are unsuitable for agricultural use due to the presence of potentially toxic elements.

Furthermore, use of sludges in cement kilns would have no detrimental impact on air quality because all sites are regulated under the Industrial Emissions Directive, which sets strict limits on emissions to air. These limits require plants to be equipped with particulate filters, selective non-catalytic reduction to remove NO<sub>x</sub> emissions and the lime in the raw materials absorbs any acidic gases such as SO<sub>2</sub>.

MPA are aware that there is an increasing use of Anaerobic Digestion as a sludge treatment option, including increasing the co-digestion with food waste. We are also mindful that the existing facilities may not receive incentives from government that are available through the Green Gas Support Scheme. So, like the cement sector, these facilities may suffer if the market for bioresources is skewed towards subsidised uses. We would suggest that Ofwat examines the potential impacts of these ring-fenced incentives on its bioresources strategy.

The use of digestate wastes in coprocessing can also add value to the water companies, by transferring these residues into productive, higher value cement, mainly used in concrete products, that themselves are long-lived and 100% recyclable materials.

### Reaching Net Zero

Use of biomass fuels in cement manufacture is a key lever to the long-term decarbonisation of the cement sector. Last year the MPA published the “*UK Concrete and Cement Industry Roadmap to Beyond net Zero*”<sup>1</sup>, which set out how fuel switching away from coal to source 70% of the thermal input from waste biomass, could reduce emissions in 2050 by 16% compared to 2018 as one part of our overall path to net negative emissions.

Fuel switching to waste biomass fuels is a key long-term component required to reach deep levels of decarbonisation in the cement sector. The use of waste biomass fuels provides a considerable reduction in the emission of fossil CO<sub>2</sub>. Reductions occur not only from the associated emissions being carbon neutral (because they arise from biomass) but from avoided emissions from coal, which instead remains in the ground. Furthermore, in future, UK cement plants will need to be fitted with carbon capture technology to reduce the high proportion of process emissions associated with the breakdown of calcium carbonate raw materials at high temperature. The capture of emissions from waste biomass fuels will result in the removal of emissions from the atmosphere, thus contributing even more to the UK net zero ambition.

Encouraging bioresources companies to collaborate with the UK cement sector could therefore secure a long-term market for bioresources, ensuring their use in a highly sustainable way.

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<sup>1</sup> [https://mineralproducts.org/MPA/media/root/Publications/2020/MPA-UJC-Roadmap-to-Beyond-Net-Zero\\_Oct20.pdf](https://mineralproducts.org/MPA/media/root/Publications/2020/MPA-UJC-Roadmap-to-Beyond-Net-Zero_Oct20.pdf)