UEPG
AGGREGATES EUROPE

COMPLIANCE POSITION PAPER ON
REACH AND RECYCLED AGGREGATES

RECYCLED AGGREGATES AND REACH

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Abstract

Recycled aggregates (RA) play a leading role in the circular economy by reducing waste, conserving natural resources and contributing to sustainable construction. Reclassification of RA as proposed by ECHA will put this contribution at a significant risk, moreover, from the viewpoint of environment and human health, such reclassification will be of no added value.

Reclassification is unnecessary
RA are subject to rigorous environmental and health and safety regulations at regional, national and EU levels, ensuring that they do not pose risks to the environment or human health. The aspects of contaminants such as asbestos, heavy metals and persistent organic pollutants, as well as the leaching from the RA, are thoroughly addressed. Scientific research and industry experience have demonstrated that RA are environmentally safe (see chapters II and III).

Up to now RA were used with the classification "article" without concern. During the over 40 years of mineral waste recycling several Gigatons of primary aggregates were replaced - without posing any environmental problems. No other waste stream can cope with this outstanding performance for recycling and circular economy. Reclassification will not lead to a better control of risks to human health or the environment than is currently the case.

Reclassification questionable
In the past RA have been classified within REACH as "articles" for two reasons. The main reason being that their shape, surface and design determine their function to a greater degree than their chemical composition. Besides, their chemical composition is hardly ever known and varies substantially. Every building to be demolished has a different mineral composition which is not determined.

Today this classification is challenged by ECHA without new evidence and not considering the proven positive track record of RA. ECHA have also not considered that JRC experts analyzed in 2023 the usage of RA in an elaborated science report (see chapter IVb). Chemical composition was not even mentioned as a factor by JRC. Even the EU directorate-general of environment acknowledges in a document of 9th Dec 2024 that "composition of different types of recovered aggregates as recovered from CDW streams is variable, so that the chemical composition is known only to some degree" (see chapter Va). It is therefore questionable why in the same document the conclusion was drawn "that the chemical composition is of importance for the function of the material". How can an unknown chemical composition be of importance?

Reclassification will lead to opposite effects
When pursuing the ECHA assessment, the mineral waste recycling industry will face more obligations, even when RA are included in Annex V of REACH as proposed by the European Commission (see chapter Vb). Taking into account that most companies in the industry are SME, unnecessary, burdensome, additional obligations such as Safety Data Sheets (SDS), Classification, Labelling, Packaging (CLP) and other potential restrictions will most likely discourage RA companies from pursuing the End-of-Waste status, leading to increased use as waste or disposal in landfills rather than use in high value recycling. This will hamper ongoing efforts by legislators, authorities and industry to develop a circular economy. In addition, it will also lead to a significantly increased need for landfills as the materials need to be put somewhere. Thus, a serious challenge for the supply of landfill and primary resources capacity will arise.

Reclassification contradicts current EU policies

The Commission work program and the new Clean Industrial Deal of the European Commission strive to consolidate existing recycling regulations while minimizing administrative burdens for businesses. In its new approach, the Commission seeks to make industries more circular, while facilitating administration and reducing compliance costs. The Commission even states that a targeted revision of REACH will contribute to simplifying rules for chemicals industry (COM (2025) 45 final). As explained above, the classification of RA as "substances or mixtures" under REACH would lead to increased obligations for recycled aggregate producers, thus being completely contradictory to existing EU policies.

Request

The only appropriate solution is to maintain RA as articles under REACH, thus avoiding unnecessary and disruptive consequences.

If, however, the European Commission intends to follow the ECHA assessment we strongly recommend allowing more time to assess all implications thoroughly. This comprises, but is not limited to, the following aspects:

1. Necessary landfill capacity
2. Availability of primary resources and future planning
3. Impact on circular economy goals
4. Cost impact on the building sector
5. Possible exemptions to REACH and their obligations
6. Contradiction of reclassification to existing EU policies and legislation

I. Introduction

a) What are Recycled Aggregates (RA)?

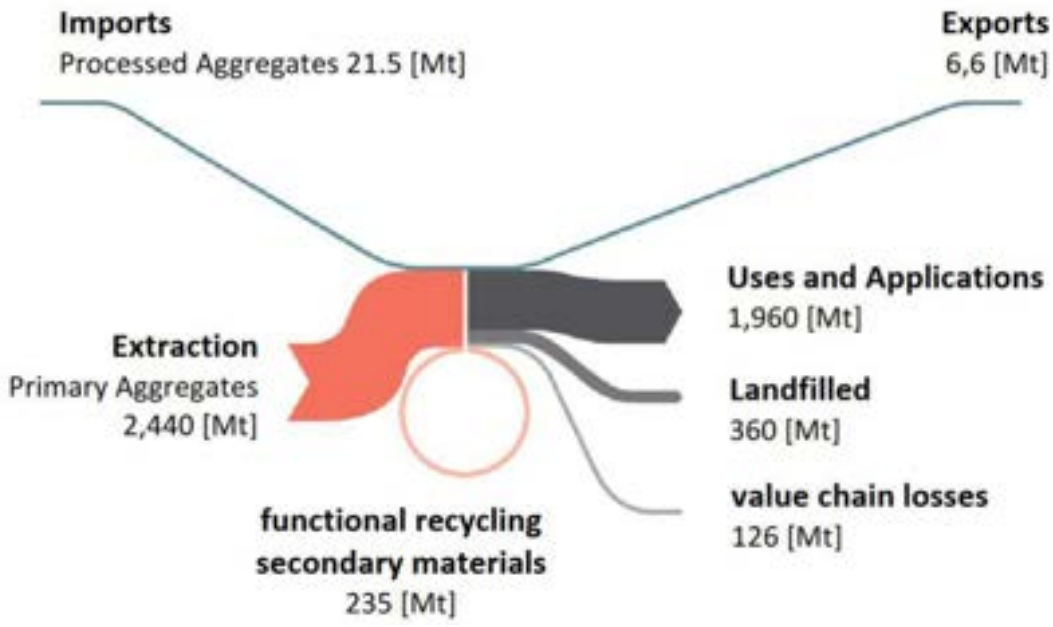
The EU product standard EN13242 defines “recycled aggregates” as “aggregates resulting from the processing of inorganic material previously used in construction”. Besides recycled aggregates, EN 13242 defines “natural aggregates” and “manufactured aggregates”. Recovered aggregates is not defined. The definition however does not cope with the broader interpretation in some Member States with national End-of-Waste criteria. For instance, the Irish End-of-Waste regulation for recycled aggregates allows such materials as waste from concrete production, thermal processes such as ceramic production and soil and stones as input. The Dutch regulation defines the allowed input as “stoney waste”. In all cases the essence is that aggregates are produced according to a European product standard for aggregates. All aggregates produced under these standards have in common that they fulfil a technical function, for which shape, surface and design determine fitness for use to a greater degree than chemical composition. They are all articles in the sense of REACH.

This document looks more closely into the issue of recycled aggregates produced from construction and demolition waste (furthermore: RA). These are the most abundant “secondary aggregates” and under the greatest scrutiny.

b) The crucial role of RA in sustainable construction and the circular economy

Since the REACH regulation came into effect in 2007, the EU27 has produced over 3.9 billion tonnes of recycled aggregates. This significant output has played a crucial role in advancing the circular economy, demonstrating the industry's long-standing commitment to sustainable resource management. The Sankey below shows the aggregate flow in the EU. Functional recycling of secondary materials is on a low level of about 10 %. In contrast, 15 % of the CDW is still landfilled.

Sankey Diagram on the aggregates flow for the EU (ANEFA, 2022):



c) *Current Market Landscape and Key Challenges*

The industry continues to face acceptance challenges, often reflected in the exclusion of recycled aggregates from tenders. In this context, End-of-Waste (EoW) criteria play a crucial role. The term "waste" can be psychologically off-putting, even though recycled aggregates that meet EoW status are classified as products and must adhere to the same technical and environmental standards as primary materials. While some countries have already established clear EoW criteria, discussions are still ongoing in others and at the EU level. This regulatory disparity is one of the key reasons for the varying levels of construction and demolition waste recycling across European countries. RA are processed and produced in accordance with a member state approved standard including a Factory Production Control system (for example, NF EN 13242). But the acceptance in the construction market and therefore also their contribution to circular economy is still low. There are many reasons for this:

- Landfill is still inexpensive in most member states, especially if the cost of transport and the cost of landfill is summed
- Constructors prefer primary materials as they are used to working with them
- Recycled materials may have a negative connotation
- Nobody in the value chain has advantages from a better environmental performance

II. RA's Proven Track Record – Historical Background

Recycling of CDW started about 40 years ago. In such Member States as Germany, the Netherlands, Belgium (Flanders) and Austria production of recycled aggregates soon rose to significant levels. These aggregates were usually trusted, because technical specifications were developed and either a national or a subnational environmental framework was established. The only possible route for exposure is leaching to soil or groundwater, for which limit values were set.

In some Member States End-of-Waste criteria have been developed for recycled aggregates. By definition, when meeting these criteria recycled aggregates have no overall adverse environmental or human health impacts. In some Member States such as the Netherlands, Belgium (Flanders) and Austria, this knowledge has been acquired on the basis of a long-lasting experience[1]. This experience illustrated that within the framework of environmental testing, no adverse impacts have occurred. In the UK, End-of-Waste criteria have been developed using evidence of an extensive study performed by Waste & Resources Action Programme (WRAP) and UK Environment Agency. The study concluded that the risk to groundwater from most potentially polluting substances was low, even using conservative assumptions in the assessment. The majority of contaminants were not likely to be present at environmentally significant concentrations. In the case of surface water, the risk assessment showed no risk of contamination under any scenario of infiltration rate or river flow rate. In Germany, the use of recycled aggregates in infrastructure construction has been regulated by a standardised federal

[1] See for instance Christian J. Engelsen, Grethe Wibetoe, Hans A. Van der Sloot, Walter Lund, Gordana Petkovic. *Field site leaching from concrete aggregates applied as sub-base material in road construction*. Science of the Total Environment, vol. 427-428, 15 June 2012.
Christian J Engelsen, Hans A. Van der Sloot, Gordana Petkovic. *Long-term leaching from recycled concrete aggregates applied as sub-base material in road construction*. Science of the Total Environment, 2017 Jun 1:587 – 588.

law since 2023. This regulation is based on a detailed scientific concept. If the requirements are met, any impact on the environment can be ruled out.

For decades, recycled aggregates have undergone environmental testing. There is substantial evidence that leaching values meet national (or subnational) limit values:

- The Dutch association holds a database of test results of thousands of samples. In this database only a small percentage of all samples would not pass the test. For instance, 2,5% of samples exceeded the limit value for sulphate, 0,6% exceeded the limit value for copper. The concerning batches of recycled aggregates are rejected and corrective measures are taken.
- In Flanders test results are collected by COPRO. The results show that up to 5-10% of the samples may not meet all leaching limit values, this is mainly due to copper. The concerning batches of recycled aggregates are rejected and corrective measures are taken.

In addition, (scarcely) existing field tests reveal that the actual impact of recycled aggregates is negligible.

- In Germany existing road constructions with recycled aggregates were examined. Leaching water under the constructions showed elevated concentration of sulphate. This is due to the presence of gypsum. In some cases, higher concentrations of chromium and copper were found. In soil samples under the road however these metals could not be detected.
- Studies in Norway using pilot facilities to study field condition leaching found no influence of recycled aggregates with respect to metals, PCB and PAH on soil. Also, an existing road construction where recycled aggregates were applied was examined. The concentration of trace constituents in water coming from the sub-base did not exceed Norwegian acceptance criteria for ground water and surface water.

Whereas this has not been investigated for this paper, to the knowledge of experts involved, there are no cases known where the use of recycled aggregates has led to substantial impact to the environment of human health.

The existing situation in many Member States is that for recycled aggregates strict environmental control is in place. Recycled aggregates have not been reported to cause environmental harm or pose any threat to human health. Specifically, where End-of-Waste criteria apply (and when REACH applies) such criteria are by definition guarantee that no adverse impacts can exist.

III. Environmental and Health & Safety Compliance – Existing regulatory framework

a) Notification of substances in articles – REACH – Article 7

Whereas recycled aggregates are an article, article 7 of REACH regulation applies which requires that any substance meeting the criteria in article 57 and which is present in a concentration above 0,1 %, must be notified. There is no substance known in recycled aggregates that would exceed this threshold.

b) *Acceptance Protocol*

Recycled aggregates are produced from clean, inert CDW: concrete, masonry and other materials such as ceramics. These materials are separately removed upon demolition or are delivered as mixed mineral CDW to the recycling facilities. Hazardous materials (e.g. asbestos containing products) are removed before the demolition process starts. Recycling facilities (crushing plants) apply an acceptance protocol which is strictly enforced. It is important to do so, as otherwise the final product cannot be put on the market. National, or subnational, environmental requirements are such that these can only be met when contaminating substances are banned to enter the recycling process.

c) *Substances of Very High Concern (SVHC)*

Recycled aggregates do not contain substances of (very) high concern. In the Netherlands, a study[2] was performed to identify potential substances of very high concern in various waste streams. For recycled aggregates, the only identified substance was PAH. The Dutch recycling association has a databank of test results for recycled aggregates. Of 2379 test results, the highest concentration found was 180 mg/kg. That is still negligible compared to the cut off value of 0,1 % SVHC used in REACH. Recycled aggregates do not contain any substances of (very) high concern and therefore cannot pose any risk to the environment or human health.

d) *Waste status and waste regulation*

Recycled aggregates are applied in many situations as a waste material, for instance in Member States where there are no End-of-Waste criteria. Also, in Member States where such criteria exist, recycled aggregates have been used for decades as waste material. As recycled aggregates were classified as waste and fall outside the scope of REACH, there is no evidence to suggest they pose a significant risk to the environment or human health. Outside the scope of REACH, any theoretic risk has been managed by (sub)national environmental legislation and quality management in the value chain. An example can be found in the Netherlands. Strict regulations assure that asbestos is removed prior to demolition. According to legislation, asbestos is monitored down the value chain and may not exceed a concentration of 100 mg/kg in recycled aggregates. Leaching of recycled aggregates is strictly regulated and is not known to be an issue. Imposing obligations of REACH will not improve risk management related to the environment and human health the slightest bit.

e) *Existing national regulations – Leaching assessments*

If recycled aggregates would not be considered to be an article, certain duties of communicating information down the supply chain apply, also when recycled aggregates would be exempted from registration in Annex V. This includes that an exposure assessment is performed (and that information is communicated through the “chemical supply chain”). Here, the needless point of forcing recycled aggregates into the mould of REACH is demonstrated again. Exposure assessment has already been performed, due to national (leaching) regulations as pointed out. At national levels, an assessment has been carried out to set limit values. It is useless then that a producer of recycled aggregates would have to perform an exposure assessment, other than performing the regular leaching test.

[2] ZZS in afvalstoffen (SVHC in waste), SGS Intron, 2019

Recycled aggregates are not known to pose a threat to the environment or human health.

- **From today's perspective, there are no harmful substances known to be present in concentrations that could ever raise concern. Existing environmental legislation, in combination with appropriate quality management in the value chain, is a safe guarantee.**
- **EU occupational safety and health (OSH) legislation is essential to protect the health and safety of the workers in our sectors. Protecting people from health and safety hazards on the job is a key element of achieving sustained decent working conditions for all workers. It has allowed to reduce health risks at work and to improve OSH standards across the EU and across sectors.**

For recycled aggregates, REACH regulation is not the most effective legislative tool and does not add to managing health and safety risks.

IV. The questionable shift toward chemistry-based regulation

In a previous paper, the Consortium has explained that it is absolutely clear that recycled aggregates are an article[3]:

The performance, conformity and fitness for use of both recycled and primary aggregates are fully determined by their physical and geometrical properties. This goes for an individual particle as well for a bulk of particles.
By producing aggregates with the correct input material quality and using the correct equipment and process conditions, the physical and geometrical properties such as shape and surface texture can be tailored in order to achieve the specified properties for uses as described in the CEN/TC 154 harmonized aggregate standards against the intended use.
Chemical composition is of very minor importance, if important at all. Recycled aggregates should therefore remain considered as an article in the context of REACH regulation.

This conclusion still stands and the Consortium has even gained more trust that this is the case. The following additional information underpins the case.

a) Chemical characteristics are not important for clients

Once more, the question was looked into if chemical composition could at all be relevant for the function of recycled aggregates. The Consortium cannot find evidence that any client wishes to receive information about the chemical composition of recycled aggregates. To the knowledge of experts involved, chemical composition is not, in any case, relevant to know in order to determine if recycled aggregates can perform a function.

As can be judged from the requirements for recycled aggregates, chemical composition is not an issue for application unless chemicals contaminants present in very minor quantities limit the application. The standard requirements of EU product standards have provision for minor testing of chemical parameters, which the chemical composition does not determine the fitness for use more than the physical properties. The most important requirements and properties on all types

[3] AE-UEPG, CPE, EAPA, EURIC, FEAD, & FIR. (2024). *Recycled aggregates and REACH: Position paper*. https://www.aggregates-europe.eu/wp-content/uploads/2024/10/AE-UEPG-CE-CPE-EAPA-EURIC-FEAD-FIR-Recycled-Aggregates-and-REACH-Position-Paper.pdf

of aggregates and for all uses, as stated in CEN/TC 154 standards under the CPR, are geometrical ones which are the properties specified by the user based on their application.

b) JRC study confirms: RA are an article

In a report of JRC[4] on the use of RA in concrete published in 2023, the fact that RA are an article is confirmed. The JRC expert authors detailed in the above report a study of RA for use in concrete and did not consider chemical composition a key factor.

The processing described includes removal of contaminants, and crushing, shaping and sizing of materials. See JRC Report Chapter 3.1 Processing of CDW into recycled aggregates p.16 which states:

"*An example of a conventional process for the production of RA is presented next:*

1. *CDW is preliminarily sorted and fragmented at the construction site using conventional equipment and is then sent to a CDW management plant, or treated on-site.*
2. *The CDW intended for the production of RA, which is either composed of concrete waste or of mixed CDW after removal of contaminants (therefore, composed mostly of concrete and masonry waste), is sent to the production line.*
3. *At entry of the production line,* ***preliminary screening by size removes soils and other smaller elements*** *and magnetic separators are used to remove metals.*
4. *During the remaining production process, the* ***CDW is crushed, sieved,*** *undergoes additional magnetic separation stages and lightweight materials (such as paper and plastics) are removed, typically with air sifters. Manual separation is usually carried out to remove other contaminants, such as wood and glass.*
5. *A final sieving stage is carried out and RA are sent to stockpiles ready for sale and in conformity with a declared grading. Some types of RA (e.g. those intended for backfilling) may not be sieved.*
6. *Preferably, the storage of RA should be sheltered to minimize their water content."*

The Report also summarized in Chapter 3.2 Types of recycled aggregates p.18 :

> *"As a first approximation, the stiffer an aggregate, the better its quality, since the modulus of elasticity (the property used to evaluate the stiffness of an engineering material) is related to its porosity and strength."*

The JRC report also summarized the technical requirements for recycled aggregates in Chapter 3.3.1 pp.21-23:

> *"The aggregate must have adequate strength and stiffness and water absorption must not be too large."*
>
> *"The shape of the aggregate should be as round as possible."*
>
> *"The recommendations for shape are the same for NA (Natural Aggregate) and RA (Recycled Aggregate) [22] and usually they are comfortably met.*
>
> *"An aggregate must have well-controlled and known grading."*

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[4] Pacheco, J., De Brito, J., & Lamperti Tornaghi, M. (2023). *Use of recycled aggregates in concrete: Opportunities for upscaling in Europe* (JRC131294). Publications Office of the European Union. https://doi.org/10.2760/144802.

*"**The only noteworthy difference** in grading requirement between RA and NA is that the maximum allowed fines content of RA of most standards is smaller than that of NA. This is due to the smallest fractions of RA being of poor quality, including clay particles and other soils that have relevant detrimental effect on the properties of concrete."*

"The chemical contamination of an aggregate should be checked and comply with requirements."

The same concerns relating to NA (*Natural Aggregates*) apply, such as the presence of organic matter that affects setting and hardening, the content of chlorides and of acid-soluble sulphates, and the potential for alkali-silica reactivity.

c) Commission Mandate contradicts BWG

In its mandate to CEN to develop standards for aggregates, the Commission emphasises the importance of design, shape and surface as determining the function of aggregates. This is in contrast with the view of the Borderline Working Group.

The Foreword to Mandate M125: 1998 states:

"FOREWORD

This mandate is issued by the Commission to CEN/CENELEC within the context of the Council Directive of 21 December, 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (89/106/EEC), hereafter referred to as "the Directive" or "the CPD".

*One of the aims of the Directive **being the removal of technical barriers to trade in the construction field,** in so far as they cannot be removed by means of mutual recognition among Member States, it seems appropriate that standardisation mandates cover, at least during a first phase of the mandating programme, construction products likely to be subject to technical barriers to trade.*

This mandate is intended to lay down provisions for the development and the quality of harmonised European standards in order, on the one hand, to make "approximation" of national laws, regulations and administrative provisions (hereafter referred to as "regulations") possible and, on the other hand, to allow products conforming to them to be presumed to be fit for their intended use, as defined in the Directive."

Aggregates Mandate M/125, Annex 2 includes provisions for the performance characteristics of aggregate for various construction uses including concrete. An extract is included below clearly stating aggregate particle shape, size and density as required performance characteristics with **composition and content only required "as relevant"**.

[5] Aggregates Mandate M/125 is a directive issued by the European Commission to the European Committee for Standardization (CEN). Its purpose is to develop harmonized European standards for aggregates used in construction, ensuring quality and facilitating the approximation of national laws and regulations. The mandate encompasses various types of aggregates, including natural, manufactured, and recycled materials, and addresses their use in applications such as concrete, roads, and other trafficked areas. It also emphasizes the importance of physical properties over chemical composition in determining aggregate performance.

solid waste (refuse) ; 18/33 Drainage (including highways) and disposal of other liquids and gaseous waste ; 22/33 Supply of gases, pressure and vacuums system ; 24/33 Supply of electricity ; 26/33 Communications ; 30/33 Circulation fixtures ;
33/33 Storage fixtures

Family

AGGREGATES
Granular material (natural, manufactured, by-products of industrial processes or recycled)
According to their density, aggregates can be light-, normal- and heavy weight. Definition for identification of aggregates should specify source and type.

Subfamily

1. AGGREGATES FOR CONCRETE, MORTAR AND GROUT

Natural, manufactured, by-products of industrial processes or recycled aggregates used for the preparation of concrete and grout (see mandate for *concrete*), mortar (see mandate for *masonry and related products* for masonry and rendering/plastering mortar) for use in e.g. :
- buildings, roads and other civil engineering works

Performance characteristics of the AGGREGATES FOR CONCRETE, MORTAR AND GROUT to be covered by the harmonised standard are:

ER	PERFORMANCE CHARACTERISTICS	Durability
1+4	- Particle shape, size and density - Percentage of crushed particles - Cleanliness - Resistance to fragmentation / crushing - Resistance to polishing / abrasion / wear - Composition / content *(e.g. chloride, sulphur, ..., as relevant)* - Volume stability - Water absorption	Y *(Against freeze-thaw, weathering de-icing salts alkali, ..., as relevant)*
2		
3	- Emission of radioactivity *(for aggregates from radioactive sources intended for use in concrete in buildings)* - Release of heavy metals - Release of polyaromatic carbons - Release of other dangerous substances*	
5+6		

* In particular, those dangerous substances defined in Council Directive 76/769/EEC, as amended.

Extract EC Mandate 125, Annex 2

This demonstrates a clear contradiction in the importance of shape, size and physical properties of aggregates including recycled aggregates between the European Commission and the updated viewpoint by the BWG report.

Aggregate Mandate M/125 is number 10 in the European Commission's CPR Acquis priority revision list. The Acquis process for aggregates will commence on 26.03.2025. European Aggregates experts at least expect aggregate shape, size and physical properties to be remain as the main essential characteristics for all aggregates.

From official documents of the Commission (Mandate M/125 and a study from JRC) it can be clearly concluded that physical properties determine the function of recycled aggregates. There is no evidence in these documents that chemical composition is of any importance for the function. The documents confirm the view that recycled aggregates are an article. In addition, clients of recycled aggregates do never request information on chemical composition, only on physical parameters.

At the very least the Consortium would request CARACAL to delay any decision on the shape/chemical composition of recycled aggregate until the essential characteristics for aggregates have been agreed by Member States and the European Commission through the CPR Acquis process. Once the CPR Acquis process for aggregates is complete, and should it retain aggregate shape as essential characteristic(s), then the "article" status of recycled aggregates should be re-established with immediate effect.

V. Inconsistencies of the European Commission's recommendations

a) The chemical composition of RA being inherently variable

A literature review on the physical properties of recovered aggregates will rapidly show that the composition is a variable that is considered whenever these materials are analysed. This has also been acknowledged by the EU directorate-general of environment in a document of 9th Dec 2024[6], stating that "composition of different types of recovered aggregates as recovered from CDW streams is variable, so that the chemical composition is known only to some degree".

The variable nature of the input materials used to produce recycled aggregates, within the confines of the limitations set by the RA manufacturers to produce a safe product, is a frequently considered parameter whenever a comparison of RA with more homogeneous NA is made. The studies point to a higher importance in the rate of substitution of the NA by RA rather than the variability in composition of the RA as the main parameter to consider.[7] Additionally, there are studies that show that parameters like particle size and shape of the aggregate particles will have a performance impact in the final application of these materials[8]. Therefore, it is easy to explain the existence of regulations around the aggregate size that is allowed to be used for certain applications, like the preparation of structural concrete.[9]

If the regulatory context used so far for RA applications and how regulations almost exclusively refer to the particle size in the aggregates are to be considered, it would be inconsistent to promote a shift to composition-based regulations. The changes would only add burdensome requirements for the RA producers without any added protection to the environment of human health.

b) The inadequacy of the legal solutions

The BWG concluded RA should be treated as substances or mixtures, referring the case to CARACAL in March 2024. In order to avoid considerable effects on the Circular Economy, the European Commission suggested to CARACAL in July 2024 to explore whether exemptions under Article 2(7)(b) and Article 2(7)(d)[10] should apply to RA, ensuring regulatory consistency while balancing environmental and industry concerns. As a consequence, a legal and practical assessment was developed under the Consortium initiative[11] achieving the result that exemptions under Article 2(7)(b) and Article 2(7)(d) are deemed impractical due to RA's varied composition and the complexity of identifying all components. From a policy perspective, RA

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[6] EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR ENVIRONMENT, Circular Economy, B2. Safe and Sustainable Chemicals, DIRECTORATE-GENERAL FOR INTERNAL MARKET, INDUSTRY, ENTREPRENEURSHIP , Doc. CA/41/2024

[7] Piccinali, A., Diotti, A., Plizzari, G., & Sorlini, S. (2022). *Impact of recycled aggregate on the mechanical and environmental properties of concrete: A review. Materials, 15*(5), 1818. https://doi.org/10.3390/ma15051818

[8] Pacheco, J., De Brito, J., & Lamperti Tornaghi, M. (2023). *Use of recycled aggregates in concrete: Opportunities for upscaling in Europe* (JRC131294). Publications Office of the European Union. https://doi.org/10.2760/144802

[9] Gonçalves, P., & De Brito, J. (2010). *Recycled aggregate concrete (RAC) – Comparative analysis of existing specifications. Magazine of Concrete Research, 62*(5), 339–346. https://doi.org/10.1680/macr.2008.62.5.339

[10] CARACAL. (2024). *CA/24/2024*. European Commission.

[11] Fieldfisher. (2024). *Legal regime of recovered aggregates and possible exemptions from registration*.

align with the European Green Deal and Circular Economy goals by promoting sustainability and reducing waste. Requiring REACH registration will increase costs, discourage RA production, and drive-up reliance on primary raw materials, undermining environmental benefits. Therefore, maintaining RA's classification as articles under REACH better supports circular economy objectives and avoids unnecessary regulatory burdens.

Based on feedback from member states, the option of incorporating a special exemption for RA as substance under REACH Annex V was then proposed within CARACAL in order to exempt them from the burden of registration.[12] While we appreciate the intention to minimize industry impacts, the Consortium emphasized that this potential solution should not impose any additional burdens beyond the existing registration obligations. A new legal assessment of the special entry for Annex V was conducted.[13] The key takeaways from the legal memorandum highlight that including RA in Annex V of REACH would exempt them from registration but not from other regulatory obligations such as provision of Safety Data Sheets (SDS), Classification, Labelling, and Packaging (CLP), and other potential restrictions. While amendments to Article 2(6) of REACH or the CLP Regulation could offer additional exemptions, these changes are legally complex and challenging to implement. A proposed wording for Annex V aims to protect the industry from unintended regulatory burdens. However, despite the exemption from registration, broader regulatory relief would require intricate legal amendments with uncertain outcomes.

While the Consortium sincerely appreciates the efforts of the Commission and the CARACAL members in addressing the borderline case and minimizing the impact on Circular Economy stakeholders, we believe that the proposed solutions do not sufficiently mitigate the significant repercussions that a reclassification of RA would have on the industry. Despite their intent to provide regulatory clarity, these solutions may still lead to substantial disruptions, increased compliance costs, and operational challenges for industry players, ultimately affecting the viability and sustainability of circular economy practices. Moreover, the arguments in favour of reclassification appear complex, inconsistent, and lacking in clarity, further complicating the regulatory landscape and creating uncertainty for businesses operating in this sector.

VI. The Threat to the Circular Economy

a) How overregulation could weigh down the use of recycled aggregates

Having to fulfil obligations of REACH and CLP will impose an extra burden on recycling companies. The scale of impact is hard to determine, but the following examples give insight into the problems that will arise:

- Existing regulation and particularly enforcement of it are already burdensome. Recyclers are assumed to receive waste containing all kinds of substances of concern and are increasingly put in a position to proof that these are not present. It is an increasing burden for recyclers to cope with questions and demands that are nearly irrelevant and divert the attention from producing high quality materials
- Obligations from REACH and CLP would become extremely difficult for small companies and those companies using mobile crushers. In the case of mobile crushing, products made differ in composition and quality depending on the specific project. RA produced

[12] CARACAL. (2024). *CA/41/2024*. European Commission.
[13] Fieldfisher. (2025). *Including recycled aggregates under Annex V REACH Regulation*.

in mobile crushers do meet national requirements and do have End-of-Waste status where a national regulation for End-of-Waste applies. It will be virtually impossible to comply with the obligations. Mobile crushing may become unfeasible, whereas it is now an important part of the recycling industry.

- In some member states producers may decide to not make use anymore of the end-of-waste status. This is for instance signalled in the Netherlands. The Netherlands has achieved a very high recycling rate, and RA is used at a very high-quality level. Very importantly, the End-of-Waste status enables the easy take-up of RA by concrete manufacturers. Already some 1 million tonnes of RA are now applied in concrete. There are strong ambitions to raise this number significantly. New technologies have been and are being developed for even higher quality recycling. This high level is acknowledged by the End-of-Waste status. If this is not anymore the case, the market risks to move into the direction of lower quality recycling.

b) The risk to undermine EU sustainability goals.

- **End-of-Waste Criteria**

A crucial challenge for the industry is the market acceptance of its materials, as the status of RA as waste acts as a deterrent to its generalised use in projects. The existence of EoW allows RA to be considered as a product after undergoing a recycling process that meets the same criteria as primary materials. However, the situation remains fragmented at the European level, as not all EU Member States have developed EoW rules at national level.

The use of RA in both bound and unbound applications is the most effective way to recover construction and demolition waste (CDW), the largest waste stream in the EU. This is acknowledged by the JRC in its preliminary conclusions on the development of EU-wide EOW, where EoW would only be granted for bound and unbound applications.

Reclassifying RA as substances imposes numerous additional obligations compared to their status as articles, particularly regarding reporting, registration, and risk management. To achieve EoW status, RA must demonstrate that their use does not pose environmental or human health risks. However, additional REACH requirements do not provide any extra protection in this regard.

A very likely consequence of this reclassification is a significant decline in the use of the EoW process to turn RA into products, as companies may prefer to keep them classified as waste to avoid obligations related to REACH. Given that the industry is predominantly composed of SMEs, the risk is that aggregate recycling may no longer be economically viable due to the administrative burden of these additional requirements.

As a result of reclassification the supply of RA would decline, causing more waste to be diverted to backfill and landfill—directly contradicting the waste hierarchy.

- **EU Taxonomy**

The reclassification would also have negative consequences on the supply of RA. It undermines compliance with the criteria established in the taxonomy, particularly the minimum requirement of 15 % secondary raw materials in concrete for civil engineering. One of the consequences would be the need to source RA from further away (if available), significantly increasing the carbon footprint of these materials.

- **The Waste Framework Directive**

The WFD currently sets a 70 % target for the preparation for re-use, recycling and other material recovery of non-hazardous CDW by weight, excluding hazardous waste. Recent developments, including those related to Taxonomy activities, suggest that backfilling operations may be excluded from the calculation of this target as recognized recovery operations. By reducing the production of recycled aggregates as products and increasing their classification as waste for backfilling and landfilling, this reclassification would therefore undermine the EU's sustainability ambitions for CDW.

- **New Circular Economy Act**

The CEA aims to create a single market for waste and secondary materials. One of its key pillars is the harmonization of End-of-Waste criteria at the EU level. An EU-wide EoW framework for RA is currently being developed, as not all Member States have established one.

As outlined above, additional obligations under REACH would incentivize companies to maintain waste status rather than pursue product status through EoW, causing major disruptions to the sector.

Another priority of the CEA is to reduce reliance on virgin materials and boost recycling capacity, notably by introducing eco-design measures for key product groups. A key pillar of this initiative is the implementation of public procurement policies for circularity and the introduction of recycled content targets, which will drive demand for secondary raw materials.

All of this requires a sufficient supply of RA to meet these objectives. However, additional REACH requirements would create unnecessary burdens on companies, ultimately pushing them to favour waste classification for aggregates over product status.

The reclassification would therefore lead to a significant supply shortage. A supply gap of 10-12 % of the total demand for 3 billion tonnes of aggregates cannot be compensated by increased primary aggregate production.

As a result, this reclassification will reduce supply capacities at the EU level and undermine the EU's ambitions for the new mandate.

- **(Green) Public Procurement Directive**

The revision of public procurement rules has been announced and is expected to take place in 2026. The objective is to establish a harmonized framework for green public procurement at the European level, with binding rules on the use of secondary raw materials. Similarly, the Construction Products Regulation (CPR) introduces sustainability minimum requirements for construction products, such as recycled content targets and embodied carbon limits.

Ambitious GPP measures are a key tool to stimulate demand for recycled materials and enhance circularity in the construction sector.

However, reclassification would inevitably lead to a reduction in RA supply. A significant supply gap of 10-12 % of the total demand of 3 billion tonnes of aggregates cannot be compensated by increased primary aggregate production. As a result, this would severely undermine the ability to meet GPP and sustainable finance targets, ultimately hindering the EU's circularity and decarbonization goals.

- **Simplification Omnibus Package**

The EU Commission announced a « simplification revolution » to ensure a clear and efficient regulatory framework for businesses, providing conditions for economic prosperity and innovations without excessive regulation. In this way the commission presented its Omnibus Simplification package to reduce administrative, regulatory and reporting obligations, especially for small and medium-sized enterprises (SMEs).

Predominantly composed of SMEs, the CDW recycling industry is already disproportionately impacted by bureaucratic reporting requirements. Additionally, reclassifying RA without a scientifically proven urgency directly contradicts the announced simplification measures.

Therefore, reclassifying RA would contradict the Commission's efforts to reduce reporting burdens for businesses, particularly for SMEs.

- **Supply risk**

Requiring recycled aggregates to be registered under REACH would introduce significant economic uncertainty. The lack of clarity to determine whether these materials qualify as a product or remain classified as waste would lead to an immediate drop in demand. In the short term, this uncertainty is likely to disrupt existing markets. With primary aggregate production unable to quickly compensate for the resulting 10-12 % supply gap in the total demand of approximately 3 billion tonnes, the European construction industry— representing 9 % of EU's GDP—would face substantial challenges.

- **Landfill**

If the REACH re-assessment of recovered aggregates is implemented, it is highly likely that many SMEs will withdraw from recycled aggregate production due to the excessive bureaucratic and financial burden of REACH registration. This withdrawal could have severe environmental consequences, leading to a dramatic increase in valuable resources going unprocessed and being sent to landfill

Conclusion: A rational, evidence-based approach is needed to avoid jeopardizing RA's role in circular construction.

VII. Conclusion and Recommendations

Recycled Aggregates are a safe and essential component of sustainable construction. Extensive regulatory controls and scientific evidence confirm their environmental safety, making additional REACH obligations redundant. The inclusion of RA in Annex V would not solve the concerns raised by the industry, as it would still impose CLP obligations that are impractical and unnecessary. Recycled Aggregates should remain classified as articles under REACH to ensure regulatory consistency and avoid such burdens on the industry.

If, however, the European Commission tends to follow the ECHA assessment we strongly recommend allowing more time to assess all implications thoroughly. This comprises of, but is not limited to:

1. Necessary landfill capacity
2. Availability of primary resources
3. Impact on circular economy goals
4. Cost impact on the building sector
5. Possible exemptions to REACH and their obligations