

# To the European Commission, DG Environment

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## Object: EU End-of-Waste status for the value chain Food, water & nutrients

We understand that the European Commission is assessing opportunities for development of EU End-of-Waste rules for a number of waste streams, as announced in the Circular Economy Action Plan (CEAP)<sup>i</sup>. The CEAP designates (\$3.7) “Food water and nutrients” as a key product value chain.

In the context of the Green Deal, the Commission is taking forward the Bioeconomy Strategy<sup>ii</sup>, sustainable aquaculture<sup>iii</sup> and the Algae Initiative<sup>iv</sup>. At the same time, the Farm-to-Fork and Biodiversity strategies fix the target to reduce nutrient losses by 50% by 2030, leading to a reduction in organic and mineral fertiliser use of -20%, and phosphate rock was confirmed on the EU Critical Raw Material List<sup>v</sup> in 2020. These different objectives can be brought together if valorisation of secondary resources and materials from wastewaters is accelerated. Large-scale biomass and algae production should benefit from secondary nutrients and include nutrient recycling in processing<sup>vi</sup>.

The signatories therefore request that the European Commission **include wastewater treatment in the waste streams assessed for scope of development of EU End-of-Waste Criteria** under the Circular Economy Action Plan (including wastewater-fed algae & biomass production).

We fully recognise that wastewaters may contain a wide range of contaminants and pathogens, and **it is essential to ensure safety of recovered materials**. In particular, municipal and industrial wastewater treatment sludges should retain waste status, to ensure traceability and monitoring, unless they have undergone processing to a product with consistent quality and safety characteristics and a market for use.

The Waste Framework Directive 2008/98 specifies that End-of-Waste criteria are related to market and use of the recovered material. **We therefore suggest that the Commission specifically assess scope for EU End-of-Waste criteria for the following streams** [in all cases, see note below concerning use in fertilising products]:

- **Algal, microbial or plant biomass grown in or using wastewater streams** or other waste inputs (including biomass recovered from e.g. eutrophic surface waters) and materials processed or extracted from such biomass, e.g. microbial protein. In addition to waste waters, other waste streams used to “feed” algae or biomass production can include offgases such as: carbon dioxide (CO<sub>2</sub> capture); ammonia gas (“stripped” from wastewater treatment, sludge digestion); NO<sub>x</sub> from sludge incineration .... Different specific uses should be addressed subject to safety: [fertilising products<sup>vii</sup>], animal and aquaculture feed<sup>viii</sup>, human food, cosmetics, biofuels, other industrial applications.
- **Bio-based fibres, polymers, fatty acids, proteins and gums** extracted from wastewater, for use in industrial applications (e.g. bio-plastics) or non-fertilising agricultural applications (e.g. films): e.g. EPS (extracellular polymeric substances), alginic acid, cellulose, sericin protein, chitin, polyhydroxyalkanoates (PHA)<sup>ix</sup>, bio-bitumen, long-chain hydrocarbons ...
- **Nitrogen or sulphur compounds recovered from gas treatment** (e.g. ammonia salts or ammonia solution from offgases or from gas released by “stripping”) in wastewater or sludge treatment, biomass, manure or digestate processing or storage<sup>x</sup>, for use in industrial and energy applications (placing on the market as commodity nitrogen or sulphur chemicals).

- Nitrogen, phosphate, potassium or other ions or compounds recovered from the liquid phase of waste waters **using membranes or ion exchange, for use in industrial applications.**
- **Precipitated phosphate salts and other minerals for industrial applications**, e.g. use of struvite or iron phosphates for fire safety treatment, iron/aluminium compounds for reuse as coagulants/adsorbents ...
- **Fat, grease, oil materials**, for direct combustion or use in bio-fuel production
- **Grit and sand** used in manufacturing of building materials
- **CO<sub>2</sub>** (liquefied or gas), from the production of biomethane out of biogas, for use in industrial applications, in crop production (e.g. glass houses), in human food or beverages, in drinking water production [CO<sub>2</sub> used to feed biomass production in CO<sub>2</sub>-capture systems may retain waste status]

For all the above, we suggest to **limit to (a) waste streams resulting from treatment of municipal sewage, biomass, food-waste or animal by-products and (b) waste gases (or materials recovered from waste gases) used to feed algae and biomass production**, in order to avoid the wide range of possible contaminants and risks of industrial waste waters and waste gases.

For (a), we suggest to base on the list of inputs specified in the EU Fertilising Products Regulation STRUBIAS phosphate salts criteria:

- Municipal wastewater and sewage sludge
- Cat 2 and 3 animal by products (this includes manures), subject to an ABP End Point
- Wastewaters from processing of foods, beverages, pet foods, animal feeds, or dairy products
- Liquors from separately collected food waste
- Biofuel processing wastewaters
- Liquors from mechanically processed plant biomass

plus additionally, for clarification

- Composts and digestates of the above
- Insect and fish/aquaculture production wastewater (currently not clearly covered as ABPs)

**Fertilising products:** we do not here cover fertilising products, as EU End-of-Waste status for such applications is addressed by the new EU Fertilising Products Regulation 2019/1009 (FPR)<sup>xi</sup>. A number of materials recovered from waste waters are today not covered by current FPR “CMC” categories or STRUBIAS, and should be considered for addition into the FPR.

**Treated wastewater:** we do not here cover reclaimed wastewater (i.e. treated, purified water), in that this is addressed by the Water Reuse Regulation 2020/747. A number of uses are however not yet today covered by this Regulation and should be assessed: ground water recharge (currently under consideration), industry process water, glass houses, parks and sports grounds, ....

The signatory organisations (contacts below) request to discuss further with the European Commission how to appropriately target a scoping assessment on EU End-of-Waste for wastewater derived biomass and materials, and what further information would be relevant on current production and potential, markets and uses, processes, contaminants and safety, or other questions you may have.

We look forward to hearing from you ( coordination contact email: [info@phosphorusplatform.eu](mailto:info@phosphorusplatform.eu) )

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<sup>i</sup> COM(2020)98, 11/3/2020, <https://ec.europa.eu/environment/circular-economy/> A new Circular Economy Action Plan for a cleaner and more competitive Europe, §4.3: “assess the scope to develop further EU-wide end-of-waste criteria for certain waste streams based on monitoring Member States’ application of the revised rules on end-of-waste status and by-products, and support cross-border initiatives for cooperation to harmonise national end-of-waste and by-product criteria”.

<sup>ii</sup> [https://ec.europa.eu/info/research-and-innovation/research-area/bioeconomy/bioeconomy-strategy\\_en](https://ec.europa.eu/info/research-and-innovation/research-area/bioeconomy/bioeconomy-strategy_en)

<sup>iii</sup> [https://ec.europa.eu/fisheries/cfp/aquaculture\\_en](https://ec.europa.eu/fisheries/cfp/aquaculture_en)

<sup>iv</sup> The conclusions of the recently closed public consultation on the Algae Initiative identify the need to improve the regulatory framework: [https://ec.europa.eu/maritimeaffairs/press/towards-strong-and-sustainable-eu-algae-sector---conclusions-public-consultation\\_en](https://ec.europa.eu/maritimeaffairs/press/towards-strong-and-sustainable-eu-algae-sector---conclusions-public-consultation_en)

<sup>v</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0474>

<sup>vi</sup> See US NAS report on biofuels [www.phosphorusplatform.eu/Scope090](http://www.phosphorusplatform.eu/Scope090)

<sup>vii</sup> EU End-of-Waste status for waste-fed algae and biomass (meeting specified conditions) would enable appropriate use in CMC1 of the EU Fertilising Products Regulation 2019/1009.

<sup>viii</sup> Parallel to clarification of implementation of Annex III, point 5, of the Animal Feed Regulation 767/2009

<sup>ix</sup> Polyhydroxyalkanoates: see EU Horizon 2020 project RES URBIS <https://www.resurbis.eu/>

<sup>x</sup> It may be useful to refer to the definition of materials recovered from gases for use in fertilising products, in the possible future « CMC-WW » currently under discussion for the EU Fertilising Products Regulation.

<sup>xi</sup> [https://ec.europa.eu/growth/sectors/chemicals/specific-chemicals\\_en](https://ec.europa.eu/growth/sectors/chemicals/specific-chemicals_en)

## **Signatory organisations and companies**

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	European Biogas Association <a href="http://www.europeanbiogas.eu">www.europeanbiogas.eu</a> Contact: Marco Giacomazzi
	Aqua Publica Europea - European Association of Public Water Operators <a href="http://www.aquapublica.eu">www.aquapublica.eu</a> Contact: Milo Fiasconaro
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	Water Alliance, Netherlands <a href="http://www.wateralliance.nl">www.wateralliance.nl</a> Contact: Mr. Hein Molenkamp
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	Baltic Sea Action Group (BSAG) <a href="http://www.bsag.fi">www.bsag.fi</a> Contact: Kaj Granholm
	Irish Nutrient Sustainability Platform <a href="https://nutrientsustainability.ie/">https://nutrientsustainability.ie/</a> Contact: Etain Doherty
	Utilitalia – Italian Association of water, environment and energy companies (Italy) <a href="http://www.utilitalia.it">www.utilitalia.it</a> Contact: Tania Tellini
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	Depuración de Aguas del Mediterráneo <a href="https://www.dam-aguas.es/">https://www.dam-aguas.es/</a> Contacts: Sofía Grau Silvia Doñate p/o Juan Godoy, President.

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 <p>ONDERZOEK &amp; ADVIES IN LAND- &amp; TUINBOUW</p>	<p>Inagro vzw (Research and Advice in Agriculture &amp; Horticulture), Belgium  <a href="https://www.inagro.be/">https://www.inagro.be/</a>  Representative: Mia Demeulemeester  Contact: Reindert Devlamynck</p>
 <p>Universitat Autònoma de Barcelona</p>	<p>Universitat Autònoma de Barcelona  <a href="http://www.uab.cat">www.uab.cat</a>  Contact: Juan Antonio Baeza Labat</p>
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	<p>MM Spa  <a href="http://www.mmspaproject.eu">www.mmspaproject.eu</a>  Contact: Andrea Aliscioni</p>
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 European Regional Development Fund	Phos4You - Phosphorus recovery from municipal wastewater (INTERREG VB North-West Europe) <a href="http://www.nweurope.eu/phos4you">www.nweurope.eu/phos4you</a> Contact: Marie-Edith Ploteau
 wider uptake	WIDER UPTAKE - Achieving wider uptake of water-smart solutions (Horizon 2020) <a href="http://www.wider-uptake.eu">www.wider-uptake.eu</a> Contact: Herman Helness
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 PLATFORM 	Union of the Baltic Cities Sustainable Cities Commission BSR Water (Baltic Sea Region Water Platform) <a href="https://www.bsrwater.eu/">https://www.bsrwater.eu/</a> Head of Secretariat: Björn Grönholm Contact: Agnieszka Ilola
	Fundación Global Nature <a href="http://www.fundacionglobalnature.org">www.fundacionglobalnature.org</a> CEO: Eduardo de Miguel Beascochea Contact: Antonio Guillem Avivar
	Aqua Research Collaboration (ARC) <a href="http://www.arc-online.eu">www.arc-online.eu</a> Contact: David Schwesig
	alchemy-nova group <a href="http://www.alchemia-nova.net">www.alchemia-nova.net</a> Francesco Menconi, Managing Director
 SOCIETÀ METROPOLITANA ACQUE TORINO	SMAT S.p.A (Società Metropolitana Acque Torino) <a href="http://www.smatorino.it">www.smatorino.it</a> Contact: Armando Quazzo
	RISE Research Institutes of Sweden AB <a href="http://ri.se">http://ri.se</a> Contact: Erik Kärrman

 recovered nature's essentials	Nutrients Recovery Systems (NuReSys) <a href="http://www.nuresys.com">www.nuresys.com</a> Contact: François Decuyper
	Heirbaut aLgriculture, Belgium <a href="http://www.heirbauthoeveproducten.be">www.heirbauthoeveproducten.be</a> Contact: Kris Heirbaut
	Finnish Water Utilities Association (FIWA) <a href="https://www.vvy.fi/vesilaitosyhdistys/in-english/">https://www.vvy.fi/vesilaitosyhdistys/in-english/</a> CEO: Osmo Seppälä Contact: Paula Lindell
	Particula Group Ltd., Croatia <a href="http://www.particula-group.com">www.particula-group.com</a> Contact: Luka Dobrović, CEO
 Aguas Municipales de Vitoria-Gasteiz, S.A. AMVISA Vitoria-Gasteizko Udal Urak, A.B.	AMVISA (Aguas Municipales de Vitoria-Gasetiz, S.A.) <a href="https://www.vitoria-gasteiz.org">https://www.vitoria-gasteiz.org</a> Representative: Ángel Llamazares Álvarez Contact: Iker Egaña Iñurrieta
	Ecociudad Zaragoza S.A.U <a href="https://www.zaragoza.es/sede/portal/agua/saneamiento/">https://www.zaragoza.es/sede/portal/agua/saneamiento/</a> Contacts: Julio López Blázquez Ignacio Castrillo Fernandez
 EMPRESA MUNICIPAL DE AGUAS DE CÓRDOBA, S.A.	Empresa Municipal de Aguas de Córdoba, EMACSA <a href="https://www.emacsa.es/">https://www.emacsa.es/</a> Contact: Joaquín Aguilera Jiménez
	IVL Swedish Environmental Research Institute <a href="http://www.ivl.se">www.ivl.se</a> Contact: Linda Kanders
	Etra Spa - Energia Territorio Risorse Ambientali <a href="http://www.etr spa.it">www.etr spa.it</a> Contact: Giacomo Arrigo Pieretti
 Aguas de Lorca	Aguas de Lorca <a href="http://www.aguasdelorca.com">www.aguasdelorca.com</a> Contact: Antonio Franco Espinosa
	Anarbe - Aguas del Añarbe-Añarbeko Urak <a href="https://agasa.eus/es/">https://agasa.eus/es/</a> Contact: José Ángel Ercilla, Managing Director
	Empresa Municipal de Aguas de Málaga (EMASA) <a href="http://www.emasa.es">www.emasa.es</a> Contacts: Juan José Denis Corrales Begoña Muñiz Viña
	Canal de Isabel II, the water utility for the Region of Madrid <a href="http://www.canaldeisabelsegunda.es">www.canaldeisabelsegunda.es</a> Contact: Fernando Arlandis
	EMASESA , the metropolitan water supply company of Seville <a href="http://www.emasesa.com">www.emasesa.com</a> Contacts: Enrique Baquerizo Rodríguez Benigno López Villa

 AIGÜES MANRESA	Aigües de Manresa <a href="http://www.aiguesmanresa.cat">www.aiguesmanresa.cat</a> Contact: Antoni Ventura Ribal
 AGUAS DE MURCIA EMPRESA MUNICIPAL DE AGUAS Y SANEAMIENTO DE MURCIA	Aguas de Murcia <a href="http://www.emuasa.es">www.emuasa.es</a> Contact: Simón Nevado Santos
 Consorci d'Aigües de Tarragona	Consorci d'Aigües de Tarragona (CAT) <a href="http://www.ccait.cat">www.ccait.cat</a> Contact: Andreu Fargas
 NILSA	Navarra de Infraestructuras Locales, S.A., Pamplona (NILSA) <a href="http://www.nnilsa.com">www.nnilsa.com</a> Contacts: Roberto Ferrández Lasaosa Jairo Gómez Muñoz
 EDAFO GESTIÓN MEDIOAMBIENTAL	EDAFO GM, S.A. <a href="http://www.edafo.com">www.edafo.com</a> Contact: Roland Palacios Sánchez
 COMPOSTCAT	Asociación de Plantas de compostaje de Cataluña (COMPOSTCAT) <a href="http://www.compostcat.com">www.compostcat.com</a> Contact: Meritxell Torrentó
 DRY 4 GAS LIFE16 ENV/ES/000342	LIFE-DRY4GAS (CIEMAT) <a href="http://dry4gas.ciemat.es/">http://dry4gas.ciemat.es/</a> Contact: Virginia Pérez López
 UNIVERSITAT POLITÈCNICA DE VALÈNCIA	Universitat Politècnica de València <a href="http://www.upv.es">www.upv.es</a> Contact: Ramón Barat
 Aeas Asociación Española de Abastecimientos de Agua y Saneamiento	AEAS – Spanish Association of Water Supply and Sanitation <a href="http://www.aeas.es">www.aeas.es</a> President: Fernando Morcillo Bernaldo de Quirós Contact: Gari Villa-Landa
	Consorci Besòs Tordera <a href="https://besos-tordera.cat">https://besos-tordera.cat</a> Contact: Albert Solà Rovira, Managing Director
 global omnium	Global Omnium <a href="http://www.globalomnium.com">www.globalomnium.com</a> Represented by: Vicente Fajardo Montañana Contacts: Gloria Fayos Miñana Tatiana Montoya Martínez
 Bilbao Bizkaia Ur Partzuegoa Consorcio de Aguas Bilbao Bizkaia	Consorcio de Aguas Bilbao Bizkaia <a href="http://www.consorciodeaguas.eus">www.consorciodeaguas.eus</a> Pedro María Barreiro Zubiri, CEO Contact: Elena Aspichuela
 Facsa	FACSA (Grupo Gimeno) <a href="http://www.facsa.com">www.facsa.com</a> Managing Director: Jose Claramonte. Contact: Luis Basiero
 AGAMED AGUAS DEL ARCO MEDITERRÁNEO, S.A.	AGAMED, Aguas del Arco del Mediterráneo, S.A. <a href="http://www.agamed.es">www.agamed.es</a> Contact: Jorge Ballesta, Manager

 Aguas de Albacete	Aguas de Albacete <a href="http://www.aguasdealbacete.com">www.aguasdealbacete.com</a> Contact: Natalia Martinez Carretero
 AQUAS DE ALICANTE AGUAS MUNICIPALIZADAS DE ALICANTE (Empresa Mixta)	Aguas Municipalizadas de Alicante, E.M <a href="http://www.aguasdealicante.es">www.aguasdealicante.es</a> Contact: Joaquín Marco, Operations Director
 Aguas de León	Aguas de León <a href="http://www.aguasdeleon.com">www.aguasdeleon.com</a> Contact: Jesus Berjon Encina
 Aguas de Puerto Llanillo S.L.	Aguas de Puerto Llanillo <a href="http://www.aguasdepuertollano.com">www.aguasdepuertollano.com</a> Contact: Jose Ramon Alarcon Garcia Cuevas
 Aigües d'Elx	Aigües i Sanejament d'Elx, S.A. <a href="http://www.aigueselx.com">www.aigueselx.com</a> Contact: Francisco Javier Prieto, Manager
 Aigües de l'Horta	Aigües de l'Horta, SA <a href="http://www.aigueshorta.es">www.aigueshorta.es</a> Contact: Salvador Santamaría, manager
 AQUANEX	Aquanex, Servicio Domiciliario del Agua en Extremadura S.A <a href="http://www.aquanex.es">www.aquanex.es</a> Contact: Javier Sanchez Romero
 AQUARA	Aquara, SAU <a href="http://www.aquara.es">www.aquara.es</a> Contact: Pilar Capabulo
 AQUONA	Aquona S.A.U. <a href="http://www.aquona-sa.es">www.aquona-sa.es</a> Contact: Jose Antonio del Rey Martín Operations Director
 HiDRALiA	Hidralia (Gestión Integral del Agua en Andalucía) <a href="http://www.hidralia-sa.es">www.hidralia-sa.es</a> Contacts: Marcelino Manzanares, s Operations Director Andrés Dávila Montoro, Treatment Manager
 HiDRAQUA	Hidraqua (Gestión Integral de Aguas de Levante, Valenciana) <a href="http://www.hidraqua.es">www.hidraqua.es</a> Contact: María José Toledo, Operations Director
 HiDROGEA	Hidrogea, Gestión Integral de Aguas de Murcia, S.A. <a href="http://www.hidrogea.es">www.hidrogea.es</a> Contact: Francisco Antonio Reyes Bas, Operations Director
 ViAQUA	Viaqua Gestión Integral de Aguas de Galicia, S.A.U <a href="http://www.viagua.gal">www.viagua.gal</a> Contact: Alberto Sánchez
 PROEFBEDRIJF PLUIMVVEHOUERIJ PROVINCIE ANTWERPEN	Proefbedrijf Pluimveehouerij - Experimental Poultry Centre, Geel – Belgium <a href="http://www.provincieantwerpen.be">www.provincieantwerpen.be</a> President: Sofie Cardinaels. Contact: Peter Bleyen
 Aigües de Barcelona	Aigües de Barcelona, Empresa Metropolitana del Cicle Integral de l'Aigua, S.A. <a href="http://www.aiguesdebarcelona.cat">www.aiguesdebarcelona.cat</a> Contact: Juan Carlos Ruiz Cabeza
 ASA ASOCIACIÓN DE ABASTECIMIENTOS DE AGUA Y SANEAMIENTOS DE ANDALUCÍA ANDALUCÍA	ASA Andalucía Asociación de Abastecimientos de Agua y Saneamientos de Andalucía <a href="http://www.asa-andalucia.es">www.asa-andalucia.es</a> Carlos Irogoyen Jara

	Witteveen+Bos Consulting Engineers <a href="https://www.witteveenbos.com/">https://www.witteveenbos.com/</a> Contact: Arjen van Nieuwenhuijzen
	Empresa Municipal Mixta d'Aigües de Tarragona <a href="http://www.ematsa.cat">www.ematsa.cat</a> Contacts: Daniel Milan Cabré Jordi Vallvé López
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