Events, surveys

Workshops 21-22 January 2025: proposals for the EU Circular Economy Act and CAP

Register now for ESPP's 2x one-day stakeholder workshops to define policy proposals for

- **nutrient recycling in the announced EU Circular Economy Act,** and resource recovery from water treatment, agri-food streams and animal by-products. With the European Commission, ACR+, Suez, Eureau …
- **nutrient management and recycled nutrients in the EU Common Agriculture Policy (CAP) revision.**

Two one-day meetings to develop proposals to input to the European Commission: ***Tuesday 21st January (Circular Economy)*** *and* ***Wednesday 22nd January (Common Agricultural Policy) January 2025****, Brussels and online. Programme, registration: https://www.phosphorusplatform.eu/policy2025*

ESPP's updated draft proposals for the EU Circular Economy Act *– comments welcome https://www.phosphorusplatform.eu/policy2025*

To present your proposals at these workshops in Brussels, a very few slots are still available, contact info@phosphorusplatform.eu outlining the input you wish to make.

Phosphorus use and recycling in intensive livestock: 5-7 March 2025

5-7 March 2024, Saint Malo, France and online. To participate: pre-register here https://forms.office.com/e/D2RbpJZY57

13th March 2025: EU phosphorus "reuse & recycling" targets

13th March 2025. In Aquatech, Amsterdam RAI and online. Programme and registration https://phosphorusplatform.eu/AquatechWorkshop

Access to Aquatech is free by prior registration https://www.aquatechtrade.com/amsterdam

June 2025, Bergen, nutrients in aquaculture and fisheries

ESPP workshop, with partners in Norway and UNEP uPcycle, on nutrient management in aquaculture feed, seafood processing and fish sludge valorisation, Norway & online*, June 2025 (dates tbc), covering nutrient flows, environmental best practice, phosphorus recycling, regulatory challenges. The workshop will contribute to the United Nations (UNEP) project uPcycle, leading to a UNEP white paper on phosphorus sustainability in aquaculture.*

If you wish to contribute, please email indications of your organisation's areas of interest, competence, possible content of presentation, to info@phosphorusplatform.eu

Perspective from IPW10, August 2024

Some outcomes of the 10th International Phosphorus Workshop in Dundee Scotland (IPW10), "phosphorus processes in catchments", **by Phil Haygarth, Lancaster University, UK.** IPW10 was the 10th in a series of meetings that started in Wexford Ireland in 1995. The IPW meetings are focused on the interactions of phosphorus between land (particularly agricultural land) and water and the dynamics between the two interfaces, as well as phosphorus sustainability and bio geochemical issues. IPW10 was organised by a team from the James Hutton Institute led by Marc Stutter and Sara Trojan, with 72 talks 29 posters, 3 plenary blocks, 12 topic sessions, 4 excursions, 3 workshops, 2 special sessions and a poster session. There were 115 attendees from 19 countries and it was pleasing to see a good gender balance, with. female and early career researchers prominent on the agenda and in positions of leadership. Key topics were:

- phosphorus interactions with carbon and nitrogen cycles,
- 'legacy' phosphorus,
- detecting and measuring change in catchments,
- nature based solutions for phosphorus management,
- challenges of alternative fertilisers
- climate change effects on phosphorus processes.

I particularly wish to highlight the topic on climate change, which offered much lively debate and discussion. This is a contemporary, fascinating and meaningful topic, with high future relevance, for both the effects of phosphorus on climate and reciprocal effects of change and phosphorus.

Having had the privilege to attend all IPWs since inception, the IPW focus group and topic are a vibrant meeting space for the phosphorus community, particularly for Europe, but also attracting contributions worldwide.

The next and 11th edition of IPW will take place in Denmark in 2027.

IPW10, the 26th - 30th August 2024 https://congresshub.uk/event/10th-international-phosphorus-workshop-ipw10/

IPW10 plans to lead to a special phosphorus science issue in the Journal of Environmental Quality

Survey

Survey on Product Environmental Footprint Category Rules (PEFCR) for bio-based fertilisers. The EU-funded R&D project Novafert would like to hear your opinion, in order to help shape the project's proposals on PEFCR options.

Novafert survey, takes less than five minutes https://forms.office.com/pages/responsepage.aspx

Circular Economy policy

Proposals for nutrients in the EU Circular Economy Act

The European Commission has announced a "Circular Economy Act". Contribute to our joint stakeholder input. Draft proposals here for comment. Join the workshop to develop these proposals, Brussels & online, 21st January 2025. ESPP's draft proposals, for discussion, cover: overall policy objectives and coordination, market uptake of recycled nutrients, nutrients in the CAP (back-to-back CAP workshop, 22nd January), waste regulations, pilot plants, animal by-products, animal feed, taxonomy, standards, the Critical Raw Materials Act, nutrient data.

Draft proposals and 21st January workshop registration: https://www.phosphorusplatform.eu/policy2025

Suez calls for market, policy and enforcement actions to support EU Circular Economy

ESPP member, Suez, says the new EU Circular Economy Act should address market conditions for secondary raw materials because investments made in recycling facilities are today not able to turn at full speed. Key barriers identified are "dumping" imports of recycled materials, market prices of virgin materials lower than that of recycling, lack of financial incentives and insufficient control and implementation of regulatory obligations with absence of penalties when these are not met.

Specific actions proposed relevant to nutrient and organic recycling include:

- Minimum recycled content requirement on final products
- Investment support for recycling facilities
- Harmonised European End-of-Waste criteria (exists today for fertilising products, but not for industrial uses of phosphorus or other elements)
- Reduce micro-pollutants and apply the polluter payer principle to fund treatment
- Improve monitoring of PFAS
- Encourage water reuse alongside water use efficiency
- Develop nutrient recycling from sewage sludge and sludge reuse in agriculture
- Incentivise biomethane, using feed-in tariffs, by including biomethane and digestate in carbon credits and with use of digestates as fertilisers

"Circular Economy Act 2024. SUEZ's comments and recommendations", December 2024.

ECOS: Circular Economy is part of wider resource, climate and pollution objectives

Environmental NGO, ECOS (Environmental Coalition on Standards) position on Circular Economy emphasises a systems approach (narrow, slow, close, cycle, regenerate*) integrating waste prevention and resource management.

This requires EU policies to integrate a systems perspective and comprehensive transition, addressing both enablers and barriers to circularity, including new business models, lifestyle changes and cultural norms. ECOS calls for an EU target to reduce absolute consumption of resources, to keep the EU material footprint within the planetary boundaries of 5 t/capita/year (compared to nearly 15 t in 2022**) and an EU policy Sustainable Resource Management Framework. Waste prevention targets should be specified for different sectors and waste streams. The importance of avoiding toxic substances which can hinder recycling is underlined: ESPP notes that this is relevant for recycling of organics such as sewage biosolids or manure. ECOS makes proposals for the Ecodesign Regulation, including impacts of intermediates such as steel and chemicals used in manufacture, repairability and resale of products, market surveillance and enforcement in particular for online and import. ECOS makes specific proposals for plastics, textiles, vehicles, buildings and construction. For the bioeconomy, ECOS underlines the importance of cascading use, in particular avoiding combustion for energy of organic materials which can be valorised in other applications (material or agronomic value). ECOS recommends to better regulate green claims regarding recycling, to ensure that such claims take into account resource consumption and product lifetime, and calls for a "mandatory and unified"" EU approach to GPP (Green Public Procurement) to promote circularity and environmental performance.

** See e.g. "Circular ecosystem innovation: an initial set of principles", Konietzko et al. 2020 DOI: Narrow = use less, Slow = use longer (durability, repair), Close = use again, Regenerate = make clean.*

*** Eurostat https://www.eea.europa.eu/en/analysis/indicators/europes-material-footprint .*

"Recommendations for a Circular Economy Act", ECOS, 12th September 2024 HERE.

Ragn-Sells: rethink the Waste Hierarchy to enable the circular economy

Leading waste and recycling company makes proposals to revise the EU definition of waste and the Waste Hierarchy to ensure a fair market for recycled resources. Ragn-Sells (ESPP member) is the leading waste management company in Scandinavia, actively developing a range of material recovery and recycling value chains. The company calls for a paradigm shift – from waste to resources - a new society approach, considering waste as a sustainable resource, requires extensive reforms of legislation and taxes. The overall objective of policy should not be the reduction of waste but the reduction of natural resource extraction and this should be the first principle of a revised Waste Hierarchy. To support this, mining and extraction wastes should be subject to the same landfill taxes as 'waste', with some form of Border Adjustment Mechanism for imported products containing virgin resources. To ensure a fair market, secondary raw materials should be subject to the same regulations as virgin raw materials. In particular, standards and authorisations should be based on material quality, not origin. A further key principle, currently missing from the Waste Hierarchy, is the avoidance of toxic contaminants which are an obstacle to reuse and recycling and the Polluter Pays Principle to ensure that those introducing contaminants into material cycles cover full costs of their removal and treatment.

Ragn-Sells suggests to replace the current EU definition of waste (something which the holder discards, intends or is obliged to discard) by:
- no economic value
- no information on content, so preventing recycling
- containing contaminants preventing recycling
- illegal or unsuitable for recycling

Ragn-Sells calls to replace the Waste Hierarchy with a policy which aims to reduce the need to extract virgin resources. Current 'recycling targets' often fail to do this because they do not include the requirement to replace consumption of virgin materials, so that use as 'bulking' in construction materials or landscaping can 'count' as recycling. Targets should instead be defined as % of recycled content in used materials. Recycling targets should ensure that recovered materials have a market to replace virgin materials, and that contaminants are removed from the cycle. Also, production of waste should not be penalised when resulting from depollution activities (water treatment, offgas treatment). Regulations banning uses of recycled materials, because of their origin, should be not applicable when safety and quality comparable to virgin materials is demonstrated (examples: current exclusion of cat.1 animal by-product ashes, potassium from waste incineration ashes, nutrients from aquaculture fish sludges, from EU fertilisers; EU exclusion of purified minerals from sewage or manure ashes in animal feed).

The correct action should not be fixed by today's rigid Waste Hierarchy, instead the condition of the resource should decide what is the best treatment method. This approach can for example consider waste incineration plants with energy recovery as detoxification and resource hubs when valuable resources that are contaminated need to be extracted, whereas at present they are the always the second-to-last option in the Waste Hierarchy. Incineration eliminates organic contaminants, concentrates mineral resources and enables removal of heavy metal contaminants. CO_2 should also be treated as a potential resource, with CCU (carbon capture and use) policies that enable production of raw materials from urban flows where captured CO_2 is a needed component.

"From waste to resource plants: The need for a paradigm shift in principles and policies", Ragn-Sells 17th June 2024.

"Ragn-Sells' view on Circular Economy", 2023 (12 pages) https://www.ragnsells.com/globalassets/ragnsells.com/documents/ragn-sells-view-on-circular-economy2023.pdf

50% reduction in animal protein needed for EU food system circularity

Researchers suggest a circular EU food system could reduce farmed land surface by over 70% (or increase food exports) and per capita greenhouse emissions by 30%. A "radical redesign" of the livestock sector is needed. Total livestock production would be reduced with diets shifting from 60:40 animal:plant protein currently to 35:65, and total diet protein intake would decrease from c. 100 to 60- 80 g/person/day (ETA-Lancet guideline is 64g: see ESPP eNews n°48), that is a -50% reduction in per capita animal protein in diet. Animals are however needed for circularity, in particular dairy and aquaculture fish. The necessity of crop rotations, to ensure soil fertility, would require significant changes in agricultural practice, and also drives production of nitrogen-fixing fodder crops. Because lower animal numbers would reduce manure available for fertilisation, nutrient recycling from waste streams would be essential, in particular phosphorus from sewage. This would be inadequate for crop production and mineral fertilisers would continue to be needed. Mineral P fertiliser use is estimated at around half current use in the scenario where agricultural land use is reduced, up to around +50% more than current use in the scenario where land is used to produce food for export. Circularity of the food system is thus coherent with considerably reducing land use (enabling biodiversity restoration) and per capita greenhouse emissions reductions, as well as healthier diets, but requires changes across all components of the agriculture, food and recycling system.

"Circularity in Europe strengthens the sustainability of the global food system", H. Van Zanten et al., Nature Food, 2023 DOI.

"Circularity in animal production requires a change in the EAT-Lancet diet in Europe", B. van Selm et al., Nature Food, 2022 DOI.

"The role of farm animals in a circular food system", H. van Zanten et al., Global Food Security, 2019 DOI.

See also Hannah van Zanten in ESPP eNews n°62 and ongoing updates to this work at https://www.researchgate.net/profile/Wolfram-Simon

Stakeholders call for ambitious and holistic Circular Economy vision

Joint open letter signed by 14 organisations calls to move focus from waste management to resource use reduction and for policies including tax shifts and trade tariffs (CBAM), extension of EPR, public procurement, safe chemicals. The signature NGOs and business organisations * underline that despite the European Commission's first and second Circular Economy Action Plans, EU overall circular material use rate has stagnated (10.7% in 2010, 11.5% in 2022**) and call for policy to address materials and resources, rather than focussing only on waste management, with binding EU resource use reduction targets on material and consumption footprints. They call for high-level policy coordination, suggesting having a dedicated European Commissioner for Circular Economy. Specific policy proposals include:

- Shifting tax burden from jobs to raw materials (see also Ex'Tax proposals in ESPP eNews n°6),
- Include Circular Economy criteria in trade policy, for example by extending the CBAM (Carbon Border Adjustment Mechanism) to cover raw materials resource intensity in imported products,
- Improve Extended Producer Responsibility (EPR), to focus on prevention, recyclability, recycled content and high quality recycling,
- Binding and qualitative targets for product lifetime, reuse and repair,
- Policies for a circular single market, referring to Enrico Letta's report for Council, April 2024, which proposes
  - ensure a level playing field for circular materials, products and services, e.g. by digital product passports, Ecodesign,
  - stimulate demand for circular material, e.g. by recycled content requirements
  - EU End-of-Waste criteria and harmonisation of waste classifications across Member States
  - standards for circular products and materials (European standards organisations)
  - use of biomass for high value applications such as materials and chemicals
  - challenges and opportunities in the water sector
  - financial support, e.g. EU Innovation Fund, European Investment Bank
  - more European, more competitive public procurement with clear social value goals (not only 'lowest price')
- Public Procurement: update the EU Public Procurement Directive 2014/24 to include circular economy incentives and penalties
- Support the actions of local and regional authorities. See proposals of the Circular Cities Frontrunner Group:
  - support city and region actions, particularly with funding for scale-up (beyond pilots) and support for capacity building
  - binding EU material footprint and material circularity targets
  - fiscal shift away from linear tax systems
  - public procurement support of circular businesses
  - de-risk private investment in circularity
- EU financial investment support for prevention, re-use and recycling
- Safety: implement the EU Chemicals Strategy for Sustainability measures to phase out chemicals susceptible to hinder recycling
- Implementation of policies and actions against non-compliance

** Signatory stakeholders: Business for a Better Tomorrow, rreuse, Institut cirkulární ekonomiky, Changing Markets Foundation, ECOS (Environmental Coalition on Standards), CSCP (Collaborating Centre on Sustainable Consumption and Production), New ERA (European*

Reuse Alliance), ACR+ (Association of Cities and Regions for Sustainable Resource Management), EEB (European Environmental Bureau), Zero Waste Europe, Reloop, Circle Economy Foundation, Fair Resource Foundation,

*** European Environment Agency https://www.eea.europa.eu/en/analysis/indicators/circular-material-use-rate-in-europe*

Joint open letter to the new European Commission, 4th November 2024: https://zerowasteeurope.eu/wp-content/uploads/2024/11/Circular-economy-open-letter-to-MEPs-04.11.2024.docx.pdf

"Much more than a market: speed, security, solidarity. Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens", Enrico Letta for European Council April 2024, 147 pages https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf

"Open Letter from the Circular Cities Frontrunner Group. Accelerate the circular economy for a prosperous and competitive Europe", Amsterdam, Vittoria-Gasteiz, Milano, Turku, Copenhagen, Leuven, Malmö, Porto, 1st October 2024 https://openresearch.amsterdam/image/2024/9/30/circular_cities_advocacy_group_letter_and_attachment_final.pdf

Research project proposals for nutrient Circular Economy policies

Analysis for ESPP identifies over 40 policy proposals made by R&D projects, covering a range of EU regulations, markets for recycled nutrients, stakeholder engagement and research. Over 600 R&D projects were contacted and 26 relevant policy proposal documents were identified from more than 20 R&D projects then grouped by theme or object. Most identified proposals concern EU policies and regulations including the Common Agricultural Policy and Organic Farming, EU Fertilising Products Regulation, water and waste regulations and overall policy (INMAP, Circular Economy). Proposals supported by a significant number of projects include: simplifying acceptance of recycled nutrients under EU and national fertilisers regulations ; developing an official definition of "bio-based fertilisers" ; providing policy, regulatory and/or financial market support for recycled nutrients. Beyond these shared trends, the analysis shows a rich variety of proposals across various themes from the different R&D projects.

Further comments and input to this document are welcome if there are R&D project policy proposal documents have been missed, or policy recommendations which are not included.

"Summary of R&D project policy proposals on nutrient circular economy", Daniel Frank www.danielfrank-communications.com for ESPP, 2 January 2024. Document online here: https://www.phosphorusplatform.eu/policy2025

This analysis will be presented at ESPP's stakeholder workshop on proposals for the EU Circular Economy Act, 21st January, Brussels and online : https://www.phosphorusplatform.eu/policy2025

ESPP new member

BETA Technological Center

The mission of BETA Technological Center is to improve the competitiveness and the quality of life of rural societies. Sustainable nutrient management is an important topic for BETA TC's actions. BETA TC participates in and leads national and International research projects and cooperation with companies, public administrations and social entities. BETA TC offers a wide range of innovative solutions and services, through applied research and development in seven complementary fields of expertise:

- Environmental Technologies and Circular Bioeconomy,
- Applied Ecology and Global Change,
- Sustainable Food & Farming Systems,
- Sustainability Accounting and Optimization,
- Green Digital Transition,
- Governance for Sustainability,
- Knowledge Transfer and territorial-sectorial projects.

One of the main topics targeted by BETA is the sustainable nutrient management. In this regard, we are working with the valorisation of nutrient-rich by-products to produce bio-based fertilisers that can substitute synthetic fertilisers, promoting a sustainable and low-emission agri-food system. Through advanced technologies, we monitor and optimise the use of nutrients to ensure environmental, economic and social balance in agricultural systems.

BETA TC is excited to become a member of ESPP because this offers unique opportunities for networking with different stakeholders working on sustainable phosphorus management. ESPP is organises and promotes relevant events and initiatives, enabling meaningful discussions and collaborations, and its joint document discussions foster collective progress on critical issues. Being part of ESPP allows us to access valuable knowledge and insights from leading experts, to enhance our efforts in phosphorus sustainability and align with best practices in the field.

https://betatechcenter.com/

EU continues fertilisers imports from Russia

1 billion € EU fertiliser imports indirectly subsidise Russia's war against Ukraine

Fertilizers Europe (ESPP member) says EU policies have led to increased fertiliser imports from Russia since 2021. Hundreds of millions of € of European taxpayers' money, via CAP payments, are indirectly funding Putin's war. The biggest EU importers of Russian fertilisers are Poland, France and Germany. The EU has exempted fertilisers from sanctions or tariffs on Russian imports, whereas European fertiliser production is heavily penalised by high natural gas and phosphate rock prices. The EU fertilisers industry is being driven to closure, and European farmers are increasingly dependent on Russia. The European Commission confirms that Russian fertiliser imports are today significantly higher than before Russia attacked Ukraine (see ESPP eNews n°92). Fertilizers Europe states that EU imports of urea from Russia have more than doubled since 2021 whereas much of the EU's ammonia production is still today shut down (over 2/3 of European production was shut down in 2021). This situation makes the EU dependent on Russia for fertilisers, and if it continues and leads to permanent fertiliser industry closures in Europe, will make the EU dependent on Russia for food supply.

In 2023, Russia introduced a 10% export duty on fertilisers, and in 2024 a special tax on profits. The Moscow Times says that EU imports of Russian fertilisers were 1.1 bn € in 2024, so export duty collected by the Russian government would be 110 M€. Fertilizers Europe estimates that Russia's fertilisers industry contributes 600 M€ to the Putin administration's special tax on profits. ESPP notes that a significant part of EU farmers' income comes from EU CAP subsidies* so that part of these tariffs and taxes collected by the Russian government is coming from the EU public finances. The 1.1 bn€ Europe is paying for Russian fertilisers is around 2% of the EU's annual CAP budget of 54 bn€ and around 1% of the total EU budget. EU dependency on Russian fertilisers is also increasing greenhouse emissions, because European fertiliser producers have significantly lower emissions per tonne production than imports, and because Russian urea is replacing fertilisers with lower nitrogen losses in use.

Fertilizers Europe calls on the EU to change its policies to support EU fertiliser production, in order to enable fertiliser supply to EU farmers at accessible prices, without dependency on Russian imports and without funding Russia's war against Ukraine, and to support EU fertilisers producers in moving away from natural gas production of ammonia (Haber Bosch) to green ammonia (from renewable electricity). ESPP underlines that supporting recycled fertilisers (N and P) and nutrient recycling would also contribute to these objectives.

** 60% according to "Supporting European farmers' incomes through Common Agricultural Policy direct aids: facts and questions", V. Chatellier, H. Guyomard, Rev Agric Food Environ Stud 104, 87–99 (2023). https://doi.org/10.1007/s41130-023-00192-8 or https://hal.inrae.fr/hal-04044282/document*

"Beyond gas. The risks of fertilizer dependence for the EU" and "EU imports of Russian fertilizer financing the war", Fertilizers Europe website, December 2024 https://www.fertilizerseurope.com/beyond-gas-the-risks-of-fertilizer-dependence-for-eu/

"Russian Fertilizer Exports to EU Jump 43% Year-on-Year", Moscow Times, 9th October 2024 https://www.themoscowtimes.com/2024/10/09/russian-fertilizer-exports-to-eu-jump-43-year-on-year-a86633

Regulatory

Revised EU Urban Waste Water Treatment Directive published

Recast Directive requires sewage phosphorus "reuse and recycling rates" to be defined by January 2028, evaluation of nitrogen recovery by 2033, fixes more stringent P and N discharge limits, addresses contaminants in sewage. The new Urban Wastewater Treatment Directive 2024/3019 effectively replaces the 1991/271 UWWT Directive. The Commission estimated that the Directive proposal would add c. 2.3% to water tariffs (see ESPP eNews n°71).

The recast Directive requires that sewage phosphorus reuse and recovery rates be fixed as follows (art. 20):

- *"The Commission shall adopt … by 2 January 2028 … delegated act … (to specify) a combined **minimum reuse and recycling rate for phosphorus from sludge and from urban wastewater** not reused … taking into account available technologies, resources and the economic viability of phosphorus recovery as well as the phosphorus content of the sludge and the level of saturation of the national market with organic phosphorus from other sources while ensuring that there is safe sludge management and no adverse impact on the environment or human health."*

Concerning N-recovery, art. 30 specifies, as one of ten questions to be addressed in the evaluation of the Directive by the Commission by 31st December 2033: "*the feasibility and appropriateness of setting Union minimum reuse and recycling rates for nitrogen from sludge or from urban wastewater, or both*"

Other important changes from the existing 1991/271 UWWT Directive, relevant to nutrients, include:

- **More stringent discharge limits for phosphorus and nitrogen** (art. 7 and Annex I):
  - 0.5 / 0.7 mgP_{total}/l or 90% / 87.5% P removal, for wwtps > 10 000 / 150 000 p.e. (*was 1-2 mgl/ or 80%*),
  - 8 / 10 mgN/l or 80% N removal (*was 10-15 mg/l or 70-80%*),
  - these limits would be applicable (*as before*) to all wwtps > 10 000 p.e. in eutrophication Sensitive Areas (art. 7.3), but additionally would be applicable to all wwtps > 150 000 p.e. even if not in Sensitive Areas (art. 7.1),
  - the concept of Less Sensitive Areas is abolished (*previously required less treatment*).

- **"Energy neutral" by 2040** (art. 11). Energy neutrality is defined as "total renewable energy produced at wwtps" versus total energy used by the plants. Calculation is as a national total, not per wwtp, and covers all wwtp > 10 000 p.e. The possibility of waste water treatment reaching climate neutrality will be evaluated by 2033 (art. 30).
- **Collection and secondary treatment of wastewater for all agglomerations > 1 000 p.e.** (*was 2 000 p.e.)* (art. 3.2, 6.3).
- A new concept of "**Quaternary treatment**" is introduced. (art. 8 and Annex I). This requires at least 80% removal of indicator organic pollutants. It would be obligatory for all wwtps > 150 000 p.e. and for all wwtps > 10 000 p.e where a pollution risk is identified, or discharging into bathing waters, etc.
- "**Extended producer responsibility**" (EPR, art. 9 & 10 and Annex III) will be implemented for pharmaceuticals and cosmetics only, such that companies placing these on the market must cover the full costs of monitoring and quaternary treatment. Possible extension of EPR to other products (micropollutants in urban wastewater) will be evaluated by 2033 (art. 30).
- The Commission will develop and adopt by 2027 **methodologies for measuring microplastics** in wastewater and in sludge, **and PFAS** in wastewater, and then these must to be monitored in wwtps > 10 000 p.e. (art. 21).
- Promote **water reuse**, taking appropriately into account nutrient management (art. 15).
- A new concept of "**Integrated urban wastewater management plans**" is obligatory for all agglomerations > 100 000 p.e. and all > 10 000 p.e. where stormwater or urban runoff meet certain conditions (art. 5, Annex V).
- **New definitions** of "sludge", "micro-pollutant", "antimicrobial resistance", "tertiary treatment", "quaternary treatment" … and modified definitions of "urban wastewater", "domestic wastewater", "non-domestic wastewater' (replaces and widens the definition of "industrial wastewater"). The definition of "appropriate treatment" disappears (was previously required for smaller wwtp) (art. 2).

NOTE: the above obligations are the final requirement in the future, at specified date deadlines, with in some cases intermediate levels fixed for certain date horizons and/or certain exemptions. The articles/annexes cited refer to the new Directive 2024/3019 (not to the numbering in the 1991/271 Directive). The above is in many cases a simplification, please refer to the published Directive legal text for precise detail.

ESPP welcomes this new Directive as ambitious and pragmatic to continue to improve Europe's water quality, to further limit phosphorus and nitrogen losses, to move towards the nutrient Circular Economy and to address emerging pollutants, in particular PFAS, pharmaceuticals and micro-plastics.

EU Directive "concerning urban wastewater treatment" 2024/3019 of 27th November 2024. European Commission website: https://environment.ec.europa.eu/topics/water/urban-wastewater_en Full Directive legal text: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202403019

EGTOP proposes definition of "factory farming" for manure

The EU expert committee has proposed criteria for the acceptance of manure and other animal by-product (ABP) derived fertilisers in certified Organic Farming. The Expert Group for Technical Advice on Organic Production (EGTOP) was requested by Member States and the European Commission to advise of the current wording "factory farming origin forbidden" in Regulation 2012/1165 (list of products and substances for use in Organic Farming) which limits use of recycled nutrients from manures and other ABPs from conventional farming. EGTOP notes "*the need and demand to compensate for "exporting" and loosing nutrients from the farm and to compensate by "importing" external organic fertilisers from animal husbandry and/or recycled by-products and waste seems necessary to close the nutrient cycle and to maintain plant yields in organic farms*". EGTOP reviewed a range of criteria for livestock production methods, such as farm size (livestock numbers), slatted floors, air quality, feedstuff origin, animal pharmaceuticals, animal 'longevity', energy use, but concluded for simple set of criteria for the present, whilst recommending possible future criteria separating between stable / space / fresh air barn / outdoor run / Organic.

For the present, EGTOP recommends to replace the "factory farming" wording by criteria based on the origin of the material (that is, criteria concerning the livestock farms producing the manure or ABP), the processing the material has undergone and the application rate (on the use Organic farm). That is, materials from

- farms using lifelong caging: not allowed
- non-Organic farms, animal husbandry method unknown: unprocessed material = not allowed, material composted or digested according to requirements of the EU Fertilising Products Regulation CMC 3 or 5: 100 kgN/ha/y
- non-Organic farms, known to not use lifelong caging: unprocessed = 125 kgN/ha/y, composted or processed as above = 170 kgN/y
- from Organic farms, processed or not: 170 kgN/ha/y

The Opinion suggests that these criteria should apply to all ABP materials currently listed in 2012/1165 as authorised for use as fertilisers in certified Organic Farming: manures, egg shells, recovered struvite and precipitated phosphates, specified animal by-products. ESPP notes that "Composted or fermented household waste" (i.e. from food waste or biowaste), which is authorised in the Organic Farming regulations 2012/1165 without the specification "Factory farming origin forbidden", is presumably not concerned by this EGTOP Opinion despite probably containing non-Organic origin animal by-products.

ESPP welcomes this proposal which is clear, pragmatic and feasible to implement and verify, and which will open opportunities of appropriate recycling of manure and ABP nutrients in Organic Farming, resolving the current exclusion of such nutrient recycling by unclear and variable interpretation of the current "factory farming" wording. ESPP hopes that this EGTOP proposal can be rapidly integrated by the European Commission into the EU Organic Farming regulations.

EGTOP Opinion "Criteria for the use of animal-derived fertilisers form conventional farming replacing the term 'factory farming'", adopted 10th June 2025, HERE.

Phosphorus and the EU Battery Recycling Regulation.

ESPP has written to the European Commission requesting that phosphorus should be included in battery recycling obligations because it is a Critical Raw Material and use in batteries is becoming significant with roll-out of Lithium Iron Phosphate batteries = LFP (see ESPP's SCOPE Newsletter n°151).

The EU Battery Recycling Regulation 2023/1542 does not refer specifically to phosphorus, but includes in Annex VI the obligation for EU Critical Raw Materials (CRMs), that labelling must indicate CRMs present at > 0.1% by weight. This concerns both phosphorus (the element in any form = the EU CRM "Phosphate Rock") and P4 derivates (the EU CRM "Phosphorus"). The Battery Recycling Directive specifies in Annex XII overall recycling targets by % total weight of the battery ("rate of recycling efficiency", Annex XII part B) and specific material recovery targets for five elements (Annex XII part C): cobalt**, copper**, lithium**, nickel** and lead. The first four of these are on the EU Critical and Strategic Raw Materials List, lead is not.

A draft 'daughter' Delegated Regulation defining calculation methods for the battery recycling required and defined (in point 3) calculation for the five specific materials (Annex XII part C of 2023/1542) and (in point 2) calculation for the % of total weight recycling (Annex XII part B of 2023/1542). For this calculation of the "rate of recycling efficiency", the draft text (point 2-5) indicates that "Oxygen, carbon from carbon sources at cell level, iron from iron sources at cell level, phosphorus, chlorine, and sulphur may be taken into account …". However, the tables specifying what must be documented for the rate of recycling efficiency and recovery of materials (points 7 and 9 of the draft) specifies: cobalt**, copper**, lithium**, nickel**, manganese**, aluminium, phosphorus*, chlorine, sulphur, iron (steel) and oxygen.

ESPP suggests that Annex XII of 2023 Battery Recycling Regulation should be modified to add phosphorus to the list of five elements with specific recycling targets, because 'Phosphate Rock' is an EU Critical Raw Material and because Lithium Iron Phosphate batteries is today the dominant battery technology (electric vehicles and grid storage). ESPP also suggests that, in the proposed 'daughter' Regulation (defining calculation methods), the currently proposed wording of point 2: "may be taken into account" (optional ?) is very unclear and does not correspond to the wording of the tables in points 7 and 9 which seem to specify certain elements as obligatory, and that the lists of elements in point 2 and points 7 and 9 are not coherent. ESPP suggests that phosphorus should necessarily be taken into account in calculating the "rate of recycling efficiency" if present at >0.1% of total weight (in coherence with the labelling requirement of 2023/1542 Annex VII). This is important because both via purified phosphoric acid and P4 derivatives are essential for different battery components: fire safety of plastics and composites (battery casings, structures, electrical insulation, cables and connectors, cell separator membranes), cathode materials (LFP batteries), organic electrolytes of lithium ion batteries (lithium fluoro phosphate).

Draft Delegated Regulation "supplementing Regulation (EU) 2023/1542 … by establishing the methodology for calculation and verification of rates for recycling efficiency and recovery of materials from waste batteries, and the format for the documentation", public consultation October 2024 (closed) here.

*** = on EU lists of Critical and Strategic Raw Materials; * = on EU list of Critical Raw Materials, as specified in the EU Critical Raw Materials Act 2024/1252, Annexes I and II.*

Nutrient recovery

UK water industry prioritisation of resource recovery opportunities

UKWIR identifies existing flows (grit, fats-greases, heat) as first option; phosphorus and nitrogen as aligned to core business and with technology available; and possible opportunities for CO_2, cellulose, biochar/HTC and hydrogen. This 150 page report by UK Water Industry Research (the UK water industry's joint research organisation) is developed to provide input to the UK government's national bioresources strategy and to prioritise resource recovery opportunities from wastewaters. It is based on input from all the UK water companies, a workshop with over 40 stakeholders and interview with a dozen organisations. This concluded that priority objectives are environmental and net zero climate impacts of processes, circularity and nutrient management/soil health. 79 possible materials potentially recoverable from wastewater were screened: sludge, liquors or gases was considered, including various nutrients (P, N, S, metals), biogas, hydrogen, carbon dioxide, iron phosphate, various forms of organics (biochars, algae, biodiesel, cellulose, chitosan, VFAs*, PLA*, vanillin, and others) … The report assesses: technological readiness level for recovery processes, purity of recovered resource, potential markets (applications, market access, prices) and compatibility with existing assets (current wastewater treatment plants). Conclusions are that the first priority is to optimise valorisation of flows already separated: grit, screenings (separated by large-grid wastewater inflow screens, use: composting or pyrolysis), ashes (use in construction or road foundations), FOG (fats, oils and greases, uses: refining to lubricants, anaerobic digestion, combustion to energy) as well as heat. Phosphorus and ammonia recovery "should be undertaken", because considered as aligned to the core business function of wastewater treatment and

because viable technologies are available. Potential uses for phosphorus are identified only as fertiliser, or phosphoric acid for fertiliser production. Potential uses for ammonia are identified as fertilisers, chemical manufacture or compressed ammonia as a fuel. Other potentially interesting resources cited are carbon dioxide (by membrane separation from biogas from sludge anaerobic digesters, where this is upgraded to biomethane), cellulose and possible pyrolysis/HTC materials (biochars, hydrochars). Hydrogen production may in the future be preferable to biogas production. Key noted questions for future implementation include possible pressures on current valorisation of sewage biosolids to agriculture, regulatory challenges (e.g. end-of-waste status), markets for recovered resources and government policies.

"Response to national bioresources strategy – prioritisation of resource recovery opportunities", UKWIR (UK Water Industry Research", Report Ref. No. 24/SL/12/06, ISBN 978-1-83872-004-9, 2024 https://ukwir.org/water-industry-research-reports

VFA = volatile fatty acid. PLA = polylactic acid

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