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ESPP proposals *(v17/6/25)*

on "minimum reuse and recycling rate" for phosphorus from urban waste water as required by art. 20 of the revised Urban Waste Water Treatment Directive 2024/3019 (here)

- **Keep different technology and sludge management route options open**, subject to ensuring safety, quality and crop availability of nutrients when used in agriculture (see below). Not limit to only the options of incineration or agricultural sewage use (as in the 2023 JRC report for the Sewage Sludge Directive, see ESPP eNews n°81).
- ESPP understands the UWWTD art. 20 wording "*reuse and recycling*" to mean:
  - **"reuse" = land spreading** with nutrient content substituting fertiliser use (see proposed conditions below)
  - **"recycling" = extraction of or processing to a product** which can technically and legally substitute use of phosphate rock derived phosphorus in fertilisers or industrial applications
- For P-recycling, **technologies are today available which can achieve:**
  - 80% P recycling from sewage sludge incineration ash
  - at pilot scale**, 50% P-recycling from total wwtp P-inflow** (including from ash).
  This recycling rate of wwtp input currently requires a combination of processes (e.g. digestion or sidestream processes plus phosphate precipitation) so this rate should be initially lower and then increased with implementation deadlines. A higher recycling rate, maybe 70% wwtp input, could be considered later as a function of results and costs of full-scale operation.
- Coherent with the above, **the 15% from P-inflow specified in the EU Taxonomy should be increased**.
- Rates should be **fixed as % of P-total in wwtp inflows** (widely measured, can be estimated for smaller wwtps) but with also (as in Germany) an **additional specific rate for recycling from ash where sewage sludge is incinerated**.
- **Rates should also take into account upstream P recycling,** e.g. by "credits" for separated urine and faeces, P recycling or reuse onsite in e.g. food processing … P-losses by e.g. sewerage network leakages, storm overflows are addressed elsewhere in the UWTD and would be too complex to account into rates.
- The EU rate for % of total P in sewage (see above) **should be applicable at each Member State national level** (same rate for each MS). This allows optimisation of cost/efficiency, across each Member State, between wwtps of different size or configuration, allowance for regional differences (e.g. manure availability). Monitoring and reporting should be by Member States to the European Commission, to ensure that the rate is are achieved by each MS. An EU "P recycling" credits trading system could be established to further improve implementation cost efficiency between MS.
- As specified in the EU Taxonomy, **recycled phosphorus must be a product with a market**: **either a certified CE-Mark or national fertiliser, or corresponding to market specifications for industrial functional applications of phosphorus**. Nonetheless, there should be flexibility to develop innovative new phosphorus products if a potential market can be justified.
- **Where phosphorus is reused by sewage sludge application to land** (agriculture, forestry, soil restoration, not as a certified fertiliser product), this should be:
  - after stabilisation and sanitisation (often by anaerobic digestion, enabling methane production),
  - under waste or equivalent permitting with monitoring, traceability, transparency, producer-responsibility,
  - application plan substituting fertiliser use and limited to plant nutrient requirements,
- **For sewage sludge use on land, a quality and management certification scheme should be implemented, either with national systems or at the EU level, with a system of Notified Bodies** (validated to deliver certification by the European Commission). Certification should cover contaminants and safety, nutrient content and nutrient plant availability, management and application according to crop needs and to protect water quality. This would contribute to confidence of investors, farmers, supermarkets and consumers, given that food products are then placed on the EU market. This should be integrated into the **EU Sewage Sludge Directive** revision.
- **"Recycling" rates should apply wherever sewage sludge is not 'reused'** (used on land, substituting fertiliser use, with nutrients delivered according to plant needs).
- The **extension of reuse and recycling rates to other secondary phosphorus sources** should be evaluated: organic fraction of municipal solid waste, landfill leachate, food processing, abattoirs, intensive livestock manure …
- For this, **better data and monitoring of secondary phosphorus streams are needed**. *Note: the Critical Raw Materials Act 2024/1252 (OJ 11th April 2024) requires (art. 26.7) that the Commission define a "list of products … and waste streams … considered as having a relevant critical raw materials recovery potential" (ESPP eNews n°84).*
- Possible reuse and recycling **rates for nitrogen or other nutrients raise questions** and should be studied, including: impacts on other wwtp priorities (energy, N_2O, organics removal …), carbon emissions compared to synthetic N fertilisers, realistic N-recovery potential.
- **Policies should support user demand for recycled nutrients** (see ESPP Market Pull Policy Proposals) and ensure prevention and reduction of pollutants susceptible to inhibit P reuse and recycling (**control at source**).