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ESPP proposals *(12/12/2024)*

on targets for Phosphorus "Reuse & Recycling" from urban waste water as required by art. 20 of the revised Urban Waste Water Treatment Directive (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 targets*" 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** (as a % of the P in the 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 target 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**.
- Targets 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**.
- **Targets 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 targets.
- The EU target for % of total P in sewage (see above) **should be applicable at each Member State national level** (same target for each MS) and/or region catchments level. This allows optimisation of cost/efficiency, across each Member State, between wwtps of different size or configuration, or different inflow phosphorus concentrations, allowance for regional differences (e.g. manure availability). Monitoring and reporting should be by Member States to the European Commission, to ensure that the target is are achieved by each MS. An EU "P recycling" credits trading system could be established to further improve implementation cost efficiency between MS.
- If targets are not defined to allow 'trading' between wwtps (as above) then exceptions or less demanding targets should be et for small wwtps, wwtps with very low-P inflow.
- 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 in agriculture** (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 limited to crop nutrient requirements,
- **For sewage sludge use in agriculture, 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" targets should apply wherever sewage sludge where P is not 'reused'** (as above, with nutrients delivered according to crop needs).
- The **extension of reuse and recycling targets 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 **targets 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 proposals in SCOPE Newsletter n°151).