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ESPP call for researchers for data search tasks

30th April 2022

ESPP is looking for researchers / students to carry out, before 15th September, paid, one-off literature search and analysis tasks on (1) nitrogen recovery, (2) safety of animal by-product ashes

Offers are welcome for one or both of these two separate tasks from researchers and post-docs, students, institutes, or others **by 31**st **May** to info@phosphorusplatform.eu

Please include:

- CV and references, 3-4 lines justifying your competence on the task proposed
- short summary of the methodology and tools you will use, data bases to which you have access
- timeline for delivery
- proposed price
- mode of invoicing: institution/company, individual

(1) Literature search & analysis on nitrogen recovery and recycling

ESPP is widening our activities to include recovery and recycling of nitrogen. We are looking for a literature review of recent (last five years) publications (science papers, reports, ...) on nitrogen recovery technologies, with the aims of:

a) Identify technologies and operators

- identify technologies at R&D or industrial operational scale recovering nitrogen from wastewaters, manure or digestates, food processing, or from industry or other waste streams, from off-gases or flue gases (including ammonia stripping, nitrous oxide capture ...) or from liquid phase of wastewaters, from nitrous oxide releases from wastewater treatment, from industrial waste gas cleaning. Include (but not limited to) technologies recovering N as an inorganic chemical/fertiliser, or which stabilise N in an organic or organo-mineral form.
- Analyse at what level of development are the different technologies identified above, including information such as capacity of pilots or plants, continuous or batch, duration of operating experience to date ...
- identify key companies and R&D centres engaged in nitrogen recovery mainly in Europe, but also worldwide, including identifying contacts with emails

b) Propose keynote publications

 propose a selection of around 30 key recent publications on nitrogen recovery and recycling, to be summarised in a SCOPE Newsletter special (see as an example: www.phosphorusplatform.eu/Scope137)

c) Search for sanitary safety data for N recovery from off-gases

search for published data on sanitary safety (pathogen levels) of inorganic nitrogen products recovered from off-gases (e.g. but not exclusively ammonia off-gases from manure, livestock stables, digestates). The aim is to identify, summarise very briefly and reference, any data relevant to the sanitary safety of nitrogen products recovered from off-gases from such sources and now included in CMC15 of the EU Fertilising Products Regulation (here).



(2) Literature search on sanitary safety of animal by-product ash

Combustion ashes of Cat2 and Cat3 animal by-products (e.g. of manure) are included in the EU Fertilising Products Regulation CMC13 "Thermal oxidation materials and derivates" (here). ESPP and other stakeholders consider that incineration ashes of Cat1 animal by-products (that is, materials susceptible to transmit BSE) should also be considered if shown to be safe.

The objective is therefore to collect available data, recent or not, on:

- pathogen content of ashes resulting from combustion of animal by-products (Cat2 or Cat3, including manure)
- in particular, where combustion conditions respect the EU Industrial Emissions Directive incineration requirements (850°C for 2 seconds, etc)
- specifically to try to find any available data on pathogens in combustion ashes of Cat1 animal byproducts, that is data on elimination of prions in combustion processes, where again the final aim is to assess whether safety is ensured by the EU Industrial Emissions Directive incineration requirements
- identify any research centres carrying out recently such investigations, ongoing projects, etc