



Upcoming ESPP events	1
EU Fertilisers Regulation and STRUBIAS	1
<i>STRUBIAS pre-final report open for comment.....</i>	1
<i>Understanding how the proposed EU Fertilisers Regulation CMCs apply in practice....</i>	2
<i>Stakeholders meeting on EU Fertilisers Regulation and STRUBIAS.....</i>	3
EU consultations, calls and opportunities	3
<i>German Phosphorus Platform is recruiting</i>	3
<i>Data on recycled nutrient products from manures for JRC study</i>	3
<i>Public consultation on the Urban Wastewater Treatment Directive</i>	3
<i>Public consultation on chemicals, product, waste legislations interface</i>	3
<i>Nutrient recovery and microalgae production from wastewater</i>	4
<i>Call for members ENRD Mainstreaming the Bioeconomy</i>	4
Policy	4
<i>Proposal to include research on nutrients in FP9 Horizon Europe</i>	4
<i>EU proposes increased transparency on sewage sludge</i>	4
<i>Revision of the Common Agricultural Policy: farm Nutrient Sustainability Tool</i>	5
<i>Spain and Italy fined for wastewater treatment, actions in Germany and Ireland</i>	5
<i>US Critical Minerals list.....</i>	6
<i>UN/FAO International Code of Conduct for Use and Management of Fertilizers</i>	6
Research and development.....	7
<i>Norway Phosphorus Platform Project.....</i>	7
<i>PHYTA seaweed harvest prototype operational</i>	7
<i>Phosphonate removal from wastewaters.....</i>	7
Stay informed.....	7
GPDR & privacy policy.....	7
ESPP Members.....	8

Upcoming ESPP events



Stakeholders meeting on EU Fertilisers Regulation and STRUBIAS

(phosphate salts, biochars, ash-based products), including webinar with JRC on STRUBIAS final draft report

Wednesday 5th September 2018, 9h00-17h15, Brussels (webinar 14h00 - 15h30)

Registration: www.eventbrite.ca/e/eu-fertilisers-regulation-and-strubias-tickets-47156434164



3rd European Nutrient Event at ECOMONDO 2018 green technology expo

8 - 9 November 2018, Rimini, Italy - www.smart-plant.eu/ENE3

Phosphorus and nutrient recycling and management in Italy, the Mediterranean region and in EU research, development and innovation.

Registration started: www.eventbrite.it/e/3rd-european-nutrient-event-registration-49310903239 (free ECOMONDO ticket included)

See more events at www.phosphorusplatform.eu/upcoming-events

EU Fertilisers Regulation and STRUBIAS

STRUBIAS pre-final report open for comment



The European Commission JRC has circulated the pre-final STRUBIAS report, proposing EU Fertilisers Regulation criteria for **phosphate salts and struvite, biochars - pyrolysis and gasification materials, and thermal oxidation materials (ashes)**. JRC has circulated the report to members of the official STRUBIAS Working Group and it can be consulted on the ESPP website [here](#). It will be presented and discussed, as well as an update on the EU Fertilisers Regulation proposal, at the stakeholder [meeting](#) organised by ESPP in **Brussels on 5th September**. Please note that JRC will only accept comments on this report from members of the STRUBIAS Working Group (this includes: ESPP, DPP and several other ESPP

members), so we invite comments to info@phosphorusplatform.eu by 3rd September latest.

This “pre-final” report (450 pages ...) includes report, annexes, market study and (pages 34-39) proposals for CMC requirements, labelling and conformity assessment for EU Fertiliser label eligibility of STRUBIAS materials (and for materials derived from them). The 450-page document was circulated on 13th August, and ESPP is now only starting its analysis. Many of the comments made on the “interim” and “market” reports of 2017 are taken into account and JRC has clearly done a lot of work to do this. ESPP wishes to express our recognition and appreciation of this. Many aspects of the proposed criteria for the STRUBIAS materials are considerably different from the 2017 version, taking into account comments, and in ESPP’s view greatly improved. ESPP already notes the following proposals (as we understand it so far ... our analysis is still underway):

- Sewage and sewage sludge are accepted as input materials for phosphate salts and for ashes, but not for biochars;
- Raw manure is accepted as input substrate for all three STRUBIAS materials;
- For all phosphate salts and all ashes, the criteria are widened to include “derivate” materials, that is: not only direct use of e.g. struvite or ash onto fields as a fertiliser or liming material (after granulation or blending), but also use of these materials as inputs to fertiliser production processes (with chemical processing);
- This chemical processing can include reaction with any “intermediate” (as defined in REACH: any substance produced for and consumed in chemical processing to produce another substance), without any specific (additional) REACH registration requirements for these intermediate chemicals;
- Phosphate salts (e.g. struvite) precipitated from industrial wastewaters (e.g. fertiliser industry, phosphate rock processing, biofuel production...) appear to be excluded;
- No nutrient plant availability criteria are specified for any of the STRUBIAS materials – this avoids duplicating the proposed Fertiliser Regulation product function categories (PFC) criteria which define such criteria for fertilisers (or neutralising and reactivity criteria for liming materials);
- Minimum phosphorus content of phosphate salts = 16% P₂O₅, maximum organic carbon = 3%, minimum dry matter = 90%;
- Maximum iron + aluminium content of phosphate salts = 10% (Fe+Al);
- Cat1 Animal By-Product ash is excluded, despite being a known, effective, safe and significantly used fertiliser product;
- For most ashes, the only specific contaminant limits (beyond those applicable to all products in PFCs) are limits for chlorine, for PAH (poly aromatic hydrocarbons) and for dioxins (PCDD/F);
- Similarly, the only specific limits for pyrolysis materials are chlorine, PAHs, dioxins and PCBs;
- A PAH limit is fixed for phosphate salts precipitated from sewage;
- No minimum temperature is defined for biochar – pyrolysis – gasification processes: the H/C_{org} ratio < 0.7 (under specified testing conditions) is considered sufficient to show that the process ensures pyrolysis;
- All three STRUBIAS materials will be under Module D1 (Annex IV) conformity assessment procedure, that is production process quality assurance system is required, with a quality control system which is validated by a national notified body.

The above are points initially identified by ESPP. These remain to be verified and completed, for which your input is important. Overall, the report concludes that “many STRUBIAS materials provide plants with nutrients, especially P, with a similar agronomic efficiency to mined phosphate rock and processed P-fertilisers”, that they provide an “added value material” for both conventional European agriculture and organic farming, and that they offer the potential to replace 17-31% of mineral phosphate fertilisers” in Europe.

“Pre-final STRUBIAS Report. DRAFT STRUBIAS recovery rules and market study for precipitated phosphate salts & derivatives, thermal oxidation materials & derivatives and pyrolysis & gasification materials in view of their possible inclusion as Component Material Categories in the Revised Fertiliser Regulation”, European Commission (JRC), circulated 13th August 2018, download online at www.phosphorusplatform.eu/regulatory comments to ESPP by 3rd September 2018 info@phosphorusplatform.eu and discussion at stakeholders meeting Brussels and webinar 5th September www.eventbrite.ca/e/eu-fertilisers-regulation-and-strubias-tickets-47156434164

Understanding how the proposed EU Fertilisers Regulation CMCs apply in practice

The European Commission’s STRUBIAS report (JRC 13/8/18) provides interesting proposed clarification of how the CMCs will apply in practice (CMC = Component Material Category) and in particular how CMC1 can be interpreted (CMC1 = “Virgin material substances and mixtures”). The JRC document indicates (page 26) that “no chemical reaction or transformation” must take place between CMC materials used in production of a fertilising product, because otherwise a new (potential) CMC effectively results, which must be assessed itself as a CMC. ESPP suggests the following example to illustrate: if plant extracted fibres such as coconut coir (CMC2 plant materials) are reacted with a mineral potassium solution (CMC1), the resulting material would need itself to be eligible as a CMC1, and so would have to be REACH registered for >100 t/y (and might be excluded from CMC1 because it is a polymer). The JRC report also includes p28 that a material can be CMC1 if the intermediates used in its production were formerly waste (cf. CMC1(1)(c)) on condition that these intermediates achieved End-of-Waste before being used in the production process and that they are chemically modified in the production process. ESPP suggests that if this logic is followed, then Cat1 animal by-product ash could be used in fertiliser production (irrespective of STRUBIAS criteria) subject to (a) End-of-Waste status of the ash (national or self-declaration) and (b) chemical modification of the ash in the fertiliser production process.

Further discussion at EU Fertilisers Regulation stakeholders meeting Brussels 5th September www.eventbrite.ca/e/eu-fertilisers-regulation-and-strubias-tickets-47156434164

Stakeholders meeting on EU Fertilisers Regulation and STRUBIAS

This [meeting](#) will update on the EU Fertilisers Regulation decision process, in particular how outstanding issues for the circular economy are being addressed (industrial and organic by-products, food industry by-products, animal by-products), will discuss what the Regulation wording will mean in practice (whether or not substances which have been by-products or waste can be used to produce CMC1 materials, links to REACH and other regulation). The meeting will also discuss in detail the final STRUBIAS criteria proposals (phosphate salts, biochars, ash-based products), including a webinar link with JRC. **Wednesday 5th September 2018**, 9h00 - 17h15, Brussels (webinar 14h00 - 15h30)

Registration: www.eventbrite.ca/e/eu-fertilisers-regulation-and-strubias-tickets-47156434164

EU consultations, calls and opportunities

German Phosphorus Platform is recruiting



The German Phosphorus Platform DPP is looking to hire additional staff. A post is open for a project manager, responsible for the development of the continuously growing network of members, stakeholders and officials. A strong visibility during conferences and fairs plus networking skills are crucial. The job starts part-time at the beginning of October 2018, but will likely increase during the next months. Fluent German is essential. Application deadline: **mid-September 2018**.

Further information www.deutsche-phosphor-plattform.de
Applications info@deutsche-phosphor-plattform.de by mid September deadline.

Data on recycled nutrient products from manures for JRC study

Please be reminded of the [call for data](#) on processed manures to input to the EU Commission / JRC study for the Nitrates Directive. Please send – as soon as possible - any data relevant to nutrient leaching, agronomic performance, LCA or quality/safety of recycled nutrient products.

Submission of existing data or publications on nutrients or contaminants in runoff or groundwater following application of manure, processed manure or biosolids – **as soon as possible** – to ESPP info@phosphorusplatform.eu If product or trial information is confidential, please contact us so that we can arrange direct transfer under confidentiality agreement to JRC. See www.phosphorusplatform.eu/scope-in-print/news/1700-call-for-data-jrc-nitrates-directive-study

Public consultation on the Urban Wastewater Treatment Directive



The European Commission has opened a public [consultation](#), to **19th October 2018**, on how the Urban Waste Water Treatment Directive (UWWT 91/271/EEC) has affected sewage collection and treatment and contributed to the quality of water bodies and the environment. The objectives are to gather general public views and also expert opinion and detailed information, in addition to the first consultation which took place already in 2017. ESPP will respond to the consultation, based on our input to this first consultation (9/11/2017). We invite you to both respond directly online to the EU [consultation](#) and send any comments to ESPP to include in our input (comments on [our 2017 input](#))

EU “Public consultation on the Evaluation of the Urban Waste Water Treatment Directive” open to 19th October 2018
https://ec.europa.eu/info/consultations/public-consultation-evaluation-urban-waste-water-treatment-directive_en

ESPP input to 2017 consultation on the UWWT Directive www.phosphorusplatform.eu/images/download/ESPP-input-UWWTD-consultation-SUBMITTED-TEXT%209_11_17.pdf

Public consultation on chemicals, product, waste legislations interface

The European Commission has opened a public [consultation](#), to **29th October 2018**, on the interface between EU legislations on chemicals (inc. REACH), products and waste. This follows Commission Communication on this question (16th January 2018). This legislation interface, including End-of-Waste status, application of REACH to “recovered” substances (e.g. struvite), status of by-products, is key to the development of the nutrient circular economy, and is a crucial aspect of the proposed new EU Fertilisers Regulation, which gives “product” status and End-of-Waste to materials recycled from wastes which achieve EU-Label Fertiliser classification.

Public consultation on the chemicals, product, waste legislation interface, open to 29th October 2018

https://ec.europa.eu/info/consultations/public-consultation-addressing-interface-between-chemical-product-and-waste-legislation_en

European Commission Communication “Options to address the interface between chemical, product and waste legislation”, 16th January 2016, COM(2016)32 and accompanying Staff Working Document SWD(2016)20 https://ec.europa.eu/commission/publications/options-address-interface-between-chemical-product-and-waste-legislation_en

Nutrient recovery and microalgae production from wastewater



The EU LIFE [TL-BIOFER](#) project has developed a Pilot Plant of innovative Twin Layer (TL) technology for tertiary wastewater treatment through immobilized microalgae and bio-based fertilisers production from microalgae biomass. A 252 litre/hour prototype has been built and operated for last 24 months at El Viso-Villaralto WWTP in Córdoba (Spain). Results will be presented at the **Final TL-BIOFER Workshop** ([registration](#)), Tuesday 18th September, 2018 at CEBAS-CSIC Research Center in Murcia, Spain. **You are invited to respond to a short questionnaire by 10th September** to give your opinion on the potential and challenges of microalgae production as a wastewater treatment technology

and as a circular economy route.

Workshop registration: https://docs.google.com/forms/d/e/1FAIpQLSdcsIK2eln2rb_tB4ION-RnyvKEhURKVv0cTM61twkTilC-yA/viewform or e-mail life-tlbiofer@bpeninsular.com

Link to questionnaire: https://gallery.mailchimp.com/a4b7016a692efee8f5f525492/files/674fc13a-ca3f-4c78-bc6c-2c151f156bf/Questionnaire_TL_Biofer.docx Once completed, please send to life-tlbiofer@bpeninsular.com

Call for members ENRD Mainstreaming the Bioeconomy



The European Network for Rural Development ([ENRD](#)) is looking for members for a new Thematic Group (TG) on '[Mainstreaming the Bioeconomy](#)' within the broader multi-annual ENRD priority of 'Supporting the transition to a green economy in rural areas'. In November 2017, the European Commission carried out a [review of its 2012 Bioeconomy Strategy](#), which concluded that an update of its scope and planned actions is needed to better address EU political priorities and future challenges. The updated Strategy is due to be adopted by the third quarter of 2018. The growth of the bioeconomy into a

sustainable business model, is also one of the priorities for the CAP post-2020, identified in the Commission Communication on the [Future of Food and Farming](#) and reflected in the [legislative proposals for the new CAP](#). Drawing on the previous ENRD thematic work on the [Transition to the Green Economy, Resource Efficiency, and Water and Soil Management](#) in rural areas, this year's TG aims at encouraging the development of sustainable bioeconomy value chains that promote employment and economic growth in rural areas, while preserving their eco-systems. Main objectives are described [here](#). It is envisaged to hold up to four TG meetings - one or more through video-conferencing - and a final seminar between October 2018 and July 2019. In between meetings, online exchanges and analytical activities - including the identification of relevant examples and good practices, interviews with stakeholders and analysis of relevant initiatives - will allow the group to investigate the topic in depth. If you are interested in becoming a member of the Thematic Group and/or being informed of its on-going work register [here](#) by **3rd September 2018**. The first meeting of the Group will be held on Tuesday 9th October 2018.

Registration and call for members ENRD Thematic Group on 'Mainstreaming the Bioeconomy' https://enrd.ec.europa.eu/enrd-thematic-work/greening-rural-economy/bioeconomy_en or questions bioeconomy@enrd.eu

Outcomes of previous ENRD thematic work on the transition to the green economy and resource efficiency in rural areas https://enrd.ec.europa.eu/enrd-thematic-work/greening-rural-economy_en

Policy

Proposal to include research on nutrients in FP9 Horizon Europe

ESPP has commissioned an independent journalist to prepare an [outline "Mission" on nutrients](#), to input to the EU FP9 (Horizon Europe) R&D programme preparation process. This document is based on input received from stakeholders consulted by SYSTEMIC, Biorefine, ESPP, ESPC3 and INMS (international nitrogen management system). The two page [synthesis](#) was submitted to the European Commission on 20th July 2018 in order to start discussion, and aims to provide an accessible overview, for strategic consideration in the EU programme content definition process. You are invited to already contact your National R&D Contact Points (list here: <https://erc.europa.eu/national-contact-points>) to ask them to support towards the EU the inclusion of nutrients in FP9 Horizon Europe. Input and comment is welcome to adjust and develop this nutrients Mission proposal.

"Proposal for a Horizon Europe mission on nutrients. Grand challenge: Healthy people and planet. Mission: To halve the nutrient footprint of food by 2030, for more resilient farms, healthier diets and a better environment" www.phosphorusplatform.eu/R&D Comments and input welcome to info@phosphorusplatform.eu

European Commission proposed legislative text for FP9 Horizon Europe, 7th June 2018 https://ec.europa.eu/info/designing-next-research-and-innovation-framework-programme/what-shapes-next-framework-programme_en

EU proposes increased transparency on sewage sludge

The European Commission is [proposing](#) to oblige publication of information about sewage sludge quantities, quality, treatment and where the sludge has been applied (on which fields). This is included in the proposed [new](#) EU Regulation aligning environmental reporting obligations. This is conform to the Aarhus Convention and the Directive 2003/4/EC on public access to environmental information. The collection of this information is already obligatory today under art. 10 of the EU Sludge Directive 86/278. The new proposal modifies this article to require that the information already today collected about sewage sludge must

now be made publicly available. There are also some other new specifications in point (e) on “other information” and new requirements to standardise the software formats used for mapping of the collected data.

Proposed new Regulation “on the alignment of reporting obligations in the field of environment policy ...” COM(2018)381 – 2018/0205(COD), 3rd May 2018 https://ec.europa.eu/info/law/better-regulation/initiative/1587/publication/241058/attachment/090166e5bb180fce_en

Revision of the Common Agricultural Policy: farm Nutrient Sustainability Tool



On 1st June 2018, the European Commission [published](#) the legislative proposal for the Common Agricultural Policy (CAP) after 2020. Objectives are announced as fairer funding targeting (including limiting payments to 100 000 € per farm), higher environment and climate action objectives (in particular: preserving carbon rich soils such as wetlands, obligatory farm nutrient management tool, crop rotation) and tighter food safety (reducing pesticides, antibiotics). Art. 3 fixes that Member States shall establish a system of “Farm Sustainability Tool for Nutrients” and this is specified in Annex III “Rules of conditionality” (GAEC 5) – see detail below. The payment conditionality requirements (Annex III) also include (SMR 1)

respect of the EU Water Framework Directive (and specifically “Article 11(3)(e) and Article 11(3)(h) as regards mandatory requirements to control diffuse sources of pollution by phosphates”) and (SMR 2) respect of the EU Nitrates Directive, as well as (GAEC 4) buffer strips (both within and outside Nitrate Directive Vulnerable Zones), tillage management (GAEC 6) and no bare soil in most sensitive periods (GAEC 7). Nutrients are also included in the CAP indicators (Annex I): “1.15 Improving water quality: Gross nutrient balance on agricultural land” and “1.16 Reducing nutrient leakage: Nitrate in ground water - Percentage of ground water stations with N concentration over 50 mg/l as per the Nitrate directive”.

In Annex III, footnote 2, it is specified that the Farm Sustainability Tool for Nutrients “shall provide at least for the following elements and functionalities”:

a) Elements

- Relevant farm information based on [LPIS and IACS](#) (Integrated Administration and Control System and Land Parcel Identification System);
- Information from the soil sampling, on an appropriate spatial and temporal scale;
- Information on relevant management practices, crop history, and yield goals;
- Indications regarding legal limits and requirements relevant to farm nutrients management;
- A complete nutrient budget.

b) Functionalities

- Automatic integration of data from various sources (LPIS and IACS, farmer-generated data, soil analyses etc.) as far as possible, to avoid data input duplication for farmers;
- Two-way communication between PA/MAs and farmers allowed;
- Modularity and possibility to support further sustainability objectives (e.g. emissions management, water management)
- Respect of EU data inter-operability, openness and re-use principles;
- Guarantees for data security and privacy in line with best current standards.

The CAP legislative proposal **will now go to discussion by European Parliament and Council**, a process in which stakeholders (including ESPP) will make input and representations.

* Annex III conditionality definitions: SMR = Statutory Management Requirement and GAEC = Standards for good agricultural and environmental condition of land

Legislative text proposal for a Regulation “establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) ...” COM(2018) 392 final and 2018/0216 (COD), 1st June 2018 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A392%3AFIN> and presentation page https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/future-cap_en

Spain and Italy fined for wastewater treatment, actions in Germany and Ireland



Following action brought by the European Commission, **Spain** has been [fined](#) 12 million € by the European Court of Justice (ECJ) for failure implement the Urban Waste Water Treatment Directive 1991/271, plus 11 million € per six month period until compliance is achieved (expected maybe in 2019). In 2011, the ECJ found that Spain had not installed adequate collection and treatment of sewage in 43 agglomerations of 15 000 population equivalent (despite the deadline of year 2000 fixed in the Directive) and in 2017 the ECJ found that compliance was still not in place in 17 of these agglomerations, with significant negative effects on the environment.

Also following action by the European Commission, **Italy** has been [fined](#) 25 million €, plus 30 million € per six month period, for similarly failing to implement adequate sewage collection and treatment in 74 agglomerations of 15 000 p.e. (109 agglomerations were without treatment in a first ECJ judgement in 2012).

This follows fines of 5 M€ plus 3.3 M€ every six months imposed on **Greece** earlier this year for failure to respect the Urban Waste Water Treatment Directive, see eNews [21](#).



The European Commission has also formal [notices](#) to **Ireland** for failure to implement the EU Drinking Water Directive (96/83), because of high levels of trihalomethane (which results from chlorination of drinking water) and to **Italy** for failure to implement the Urban Waste Water Treatment Directive (91/271) as regards collection and treatment of sewage in all agglomerations of 2 000 p.e. Commission infringement proceedings against **Poland** for failure to implement Vulnerable Zones in the Baltic catchment have however been stopped, considering that this is achieved by Poland's new 2017 Water Act which designates the whole country as a Vulnerable Zone and extends a new nitrates Action Programme to the whole national territory.

In **Germany**, the NGO Deutsche Umwelthilfe (DUH) has taken the government to the national court over nitrates in groundwater, following the European Court of Justice condemnation of Germany for failure to respect the Nitrates Directive (see eNews [n°24](#)). DUH [indicates](#) that the EU limit of 50 mg nitrates per litre in drinking water is exceeded at nearly one third of monitoring sites.

Spain: Court of justice of the European Union press release 120/2018, 25th July 2018, Case C-205/17
<https://curia.europa.eu/jcms/upload/docs/application/pdf/2018-07/cp180120en.pdf>

The agglomerations still without adequate sewage collection and treatment in Spain in 2017 are: Arroyo de la Miel, Arroyo de la Víbora, Alhaurín el Grande, Coín, Barbate, Chipiona, Isla Cristina, Matalascañas, Nerja,, Tarifa, Torrox Costa, Vejer de la Frontera, Gijón-Este, Llanes, Los Llanos de Aridane, Arenys de Mar, Pineda de Mar, Ceuta Alcossebre, Elx, Vinaròs, A Coruña, Cariño, Tui, Baiona, Noia, Viveiro, Irún,

Italy: Court of justice of the European Union press release 74/2018, 25th July 2018, Case C-251/17

<https://curia.europa.eu/jcms/upload/docs/application/pdf/2018-05/cp180074en.pdf>
The agglomerations still without adequate sewage treatment in Italy are Aciri, Siderno, Bagnara Calabria, Castrovillari, Crotona, Mesoraca, Montebello Ionico, Motta San Giovanni, Reggio Calabria, Rende, Sellia Marina, Soverato, Rossano, Battipaglia, Benevento, Ischia, Casamicciola Terme, Forio, Napoli Est, Cervignano del Friuli, Trieste-Muggia-San Dorligo, Albenga, Rapallo; Apulia Region: Casamassima, Porto Cesareo, Adrano, Catania, Palermo, Misterbianco, Aci Catena, Giarre-Mascalì-Riposto et autres, Caltagirone, Aci Castello, Acireale et autres, Belpasso, Gravina di Catania, San Giovanni La Punta, Agrigento, Porto Empedocle, Sciacca, Cefalù, Carini & Asi Palermo, Santa Flavia, Augusta, Marsala, Messina, Pace del Mela, Ribera, Trabia, Scicli, Milazzo, Rometta, Ragusa, Palagonia, Consortile Sant'Agata, Militello, Capo d'Orlando, Consortile Torregrotta, Gioiosa Marea, Macchitella, Patti, Castelvetro, Mazara del Vallo, Furnari, Misilmeri, Campobello di Mazara, Triscina Marinella, Favara, Scordia-Militello Val di Catania, Tremestieri Etneo & Niscemi.

Ireland, Italy, Poland, European Commission Fact Sheet "July infringements package: key decisions" 19th July 2018

www.europa.eu/rapid/press-release_MEMO-18-4486_en.htm

"Second highest nitrate contamination of groundwater in the EU: Environmental Action Germany sues the Federal Republic of Germany for "clean water"", 17th July 2018:

www.duh.de/fileadmin/user_upload/download/Projektinformation/Naturschutz/PM_Grundsatzklage_f%C3%BCr_Sauberes_Wasser_EN.pdf

US Critical Minerals list



The US Department of the Interior has [published](#) a list of 35 mineral commodities considered "critical to the economic and national security of the United States" and which will be the focus of President Trump's strategy to end dependence on foreign mineral supplies. The list has been drawn up by USGS (US Geological Survey) after a public comment process (over 450 public inputs). The Commerce Department will now draw up a strategy to reduce dependence on these minerals, including alternatives, recycling, trade, exploration and mining of resources in the US. The list of 35 critical minerals adopted includes potash (potassium) and magnesium ("used in furnace linings") but not phosphorus/phosphate rock. The USGS [report](#) behind the list does however cite phosphate as one of a number of other "important mineral inputs into the chemical industries or agricultural sector

... These materials are not considered critical in the conventional sense because the United States largely meets its needs for these through domestic mining and processing" (ESPP note: the US does have significant phosphate rock mines meeting over 90% of domestic demand, unlike Europe which is 90% dependent on imports).

"Interior Releases 2018's Final List of 35 Minerals Deemed Critical to U.S. National Security and the Economy", USGS, 18th May 2018

www.usgs.gov/news/interior-releases-2018-s-final-list-35-minerals-deemed-critical-us-national-security-and and USGS Background Report 2018

"Draft critical mineral list - Summary of methodology and background information - U.S. Geological Survey technical input document in response to Secretarial Order No. 3359: U.S. Geological Survey Open-File Report 2018-1021, <https://doi.org/10.3133/of20181021>

UN/FAO International Code of Conduct for Use and Management of Fertilizers



United Nations

Developed to respond to UN Environment Assembly and UN Committee on Agriculture (COAG) objectives and to implement the Food and Agriculture Organization (FAO) Voluntary Guidelines for Sustainable Soil Management (2016), this proposed Code aims to provide a locally adaptable framework and voluntary set of practices with which governments, the fertiliser industry, agricultural extension and advisory services, farmers and stakeholders can contribute to sustainable agriculture and food security from a nutrient management perspective. In particular, the Code aims to assist countries in establishing systems for monitoring fertiliser trade, quality and management and for promoting their efficient and effective use. The Codes' objectives include to "Promote recycling of nutrients for agricultural and other land uses to reduce the environmental impacts of excess nutrients in the biosphere". Chapters are: soil fertility and plant nutrition, fertiliser use and management, nutrient use and recycling, composition and testing, access and labelling, information, monitoring and observance. The Code has been developed by the Intergovernmental Technical Panel on Soils (ITPS) of the Global Soil partnership (GSP) and FAO through an inclusive consultation process and was [published](#) in June 2018 as a "zero-draft", now under finalisation.

Zero-draft Code of Conduct for the Use and Management of Fertilizers www.fao.org/global-soil-partnership/resources/highlights/detail/fr/c/1141549



Research and development

Norway Phosphorus Platform Project

The Norwegian Research Council (BIONÆR programme) is funding work that aims to evaluate pathways towards phosphorus independence in the Norwegian bio-economy ([MIND-P project](#)). A central component of the project is, through working with stakeholders, to develop a phosphorus platform in Norway and a phosphorus roadmap for Norway. Existing data shows that secondary phosphorus resources in Norway are mainly in farm manure and aquaculture excrements (“fish sludge”), with the latter likely to increase by up to five times in coming decades. The MIND-P project will look at the spatial distribution of these secondary P resources, options to collect, transport and re-use them, quality questions and issues with toxicity (e.g. heavy metals in fish sludge), nutrient plant availability, economic and technological aspects and producer and consumer acceptance of recycling.

Project website (in Norwegian) www.forskningsradet.no/prosjektbanken/#/project/NFR/268338

For an English project summary see our ESPP catalogue of nutrient research projects at www.phosphorusplatform.eu/R&D

Contact: Helen Ann Hamilton helen.a.hamilton@ntnu.no

PHYTA seaweed harvest prototype operational



In May 2018, a US-based start-up known as [Phyta](#) installed a 0.06 hectare seaweed farm in Nelson Bay of Core Sound, North Carolina to demonstrate the potential of temperate-water seaweed cultivation to address environmental remediation and marine conservation objectives. Phyta's rig structure is designed with a network of submerged lines, held by floor anchors and small surface buoys. The lines are seeded with seaweed species that are native to the coastal marine environment of the southern US. Phyta seeks to produce high quality seaweed that can be used in plastic production or animal feedstocks, whilst achieving carbon sequestration, nitrogen removal, and phosphorus recycling. The venture is a finalist for the

[Hult Prize](#) - an international competition associated with the Clinton Foundation and the United Nations.

Phyta website www.phyta.org See also the seaweed harvesting project UpLift in ESPP eNews [n°13](#)

Hult Prize website www.hultprize.org

Phosphonate removal from wastewaters

[Fraunhofer IWS](#) and the company [DiaCCon](#), a leading manufacturer of diamond electrodes, are researching a process to degrade organophosphorus compounds (such as phosphonates, phosphinates) and inorganic phosphates (such as phosphites) to soluble orthophosphate, as well as breaking down residual COD. This addresses pollutants in industrial waste waters which to date have received little attention. The proposed “EIPhoDia” process uses diamond electrodes which generate strongly oxidating OH⁻ radicals. The soluble orthophosphate can then be recovered by precipitation or adsorption processes. The 18 month project has obtained funding from the German Federal Environment Foundation (DBU) and aims to build and test a small scale plant and then to scale up at two sites for testing in real industrial wastewaters. Two industrial partners, Mitsubishi Hitachi Power Systems Europe and Clariant Products Germany, are associated and will be involved in the process development. Other projects underway at Fraunhofer include PRiL, development of fertiliser products from phosphate recovered from sewage sludge incineration ash bio-leaching (based on P-bac process) and SuPaPhos, phosphorus removal and recovery from wastewaters using magnetically separable ion exchange composites.

Mentioned projects are summarized in the ESPP catalogue of nutrient research projects at www.phosphorusplatform.eu/R&D

Further information (in German) www.deutsche-phosphor-plattform.de/project/elpho-dia

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