



European Sustainable
Phosphorus Platform

Italian Phosphorus
Platform



SMART-Plant



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BEACON CONFERENCES / EVENTS (CONFERENZE FARO)

EUROPEAN NUTRIENT EVENT

TOWARDS CIRCULAR ECONOMY OF PHOSPHORUS AND

OTHER NUTRIENTS

Organized by: *Ecomondo Scientific Technical Committee, European Sustainable Phosphorus Platform (ESPP), HERA Group, Università Politecnica delle Marche, EU-Horizon2020 SMART-Plant, Italian Phosphorus Platform, Utilitalia*

Phosphorus is a critical raw material, non-renewable resource, non-substitutable for food production, essential for agriculture and directly linked to food security, as well as being important in a range of other industrial and technical uses. Europe is severely dependent on extra-EU mines and the most important use of imported phosphorus in Europe is for mineral fertilizers. On the one hand, recovery from municipal wastewater (sewage sludge), animal manure and other biowaste sources can cover most of the EU demand. On the other hand, inefficient use of phosphorus causes environmental damage. At EU level the European Sustainable Phosphorus Platform and several member states are promoting and regulating phosphorus recovery from municipal wastewater and other waste and residue biomass flows. In Italy the recently founded phosphorus platform is boosting national policies and regulations to promote sustainable management of this critical raw material. This strategic action will therefore present and discuss the EU framework and the actions in place in Italy for sustainable phosphorus management.

Chairmen

Francesco Fatone (ECOMONDO CTS and Horizon2020 "SMART-Plant" Coordinator)

Ludwig Hermann (European Sustainable Phosphorus Platform)

Alberto Zolezzi, Massimo De Rosa, Promoters of the Italian Phosphorus Platform

Claudio Anzalone, HERA Group



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	8 november Neri 2 Room South Hall	PAV. ...
10.00-18.00	3rd EUROPEAN NUTRIENT EVENT - TOWARDS CIRCULAR ECONOMY OF PHOSPHORUS AND OTHER NUTRIENTS	

Programme

DAY 1, 08/November/2018

10.00 -10.30 Registration and welcome coffee (*provided by HERA Group*)

10.30 – 12.45 Opening Plenary - STATE OF THE ART AND REGULATORY FRAMEWORK

Welcome address by Salvatore Micillo, *Undersecretary to the Italian Minister of Environment and Protection of Land and Sea*

(15') Tullio Berlinghi - Italian Ministry of Environment and Protection of Land and Sea
Phosphorus and nutrient management in the national context of circular economy

(15') Pavel Misiga - European Commission – DG RTD - Unit Eco-Innovation
EU support to R&I on circular economy of nutrients

(15') Ludwig Hermann - European Sustainable Phosphorus Platform
Nutrient circular economy: state of the art in the European Union and Mediterranean-Area

(15') Daniel Frank - German Phosphorus Platform
Phosphorus recovery and reuse in Germany after 1 year of the new regulatory framework

(15') Lorenzo Bardelli - ARERA- The Italian Regulatory Authority for Energy, Networks and Environment
Regulatory framework of nutrient and resource recovery and valorization from water cycle

(15') Emilio Caporossi – Partnership HERA-IREN-SMAT
Innovative utility partnership to reach economy of scale for phosphorus recycling: techno-economic assessment

(15') Aurora Seco - Coordinator of the EU Innovation Deal and University of Valencia
Water and nutrient circular economy policy support – The Innovation Deal experience



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(15') Aikaterini E. Christodoulou – European federation of national water services –EurEau
Nutrient management in EU water utilities: the EurEau perspective European federation of national water services

(15') Panel discussion

Chair: Francesco Fatone

Questions, suggestions and discussion about the establishment of the Italian Phosphorus Platform

12.45 – 14.00 Light lunch

14.00 – 15.20 PHOSPHORUS RECOVERY TECHNOLOGIES

(15') Christian Kabbe – ISLE Utilities – Germany

Phosphorus recovery from sewage sludge - from discussion to implementation

(8') Matthew Kuzma - OSTARA

PEARL and WASSTRIP success stories in struvite recovery and recycling in Europe and Med area

(8') Rudolf Bogner - CNP Cycles

AirPrex success stories in nutrients recovery and recycling in Europe and Med area

(8') Marisa Cunha - Veolia

Phos4You and PhosForce - Upgrading phosphorus recovery

(8') Luca Pedrazzi - Suez

Phosphogreen for struvite recovery – Suez European case study

(8') Yariv Cohen - EasyMining

Ash2Phos for P recovery: process and forthcoming full-scale application in Europe

(8') Tanja Schaaf - Outotec

Sludge incineration and phosphorus recovery by AshDec process: success stories in nutrient recovery from ashes and recycling in Europe and Med area

(8') Nicolas Morales - Aqualia

The role of nutrients in the bioenergy production



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(10') *Panel discussion*

Chair Claudio Anzalone and Christian Kabbe: Questions and discussion about challenges and future perspectives of Phosphorus recovery technologies

15.20-15.45 Coffee Break (*provided by HERA Group*)

15.45-17.00 **NUTRIENTS RECYCLING and WATER REUSE: SUCCESS STORIES AND ACTION PLAN**

(10') Manuel Isceri - Assofertilizzanti

The phosphorus issue in the new Regulation of fertilizers: the vision of Assofertilizzanti

(10') Donato Rotundo - Confagricoltura

Efficient use of phosphorus in agriculture and need for recovered sources

(10') Cristian Argenta - ITALPOLLINA

Phosphorus recycling in organic fertilisers

(10') Gabriele Boccasile, Lombardy Region

Nutrient and water recycling through the management of manure: the case history of Lombardy Region

(10') Andrea Lanuzza – CAP Holding

Techno-economic analyses of sludge management and phosphorus recovery from municipal wastewater in Milan metropolitan area

(10') Pierpaolo Florian - Alto Trevigiano Servizi

15 years after the first Italian struvite recovery plant in a municipal WWTP. Lesson learnt and perspective of the water utility

(15') *Panel discussion* Chair Ludwig Hermann (ESPP): Perspectives and actions

17.00-17.10 Q&A and conclusions

17.10- 18.00 **Poster session and drinks**



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Green & Circular Economy
6-9 Novembre 2018
Rimini Italy

IN CONTEMPORANEA CON
KEY ENERGY



10.00-18.00

**3rd EUROPEAN NUTRIENT EVENT -
TOWARDS CIRCULAR ECONOMY OF PHOSPHORUS AND OTHER NUTRIENTS**

The second day will focus on nutrient recycling and stewardship research, development and innovation (R&D&I) and will:

1. Bring together European, national and company funded nutrient research projects identify synergies and share results;
2. Present (Mediterranean) R&D research activities focused on combined water reuse and nutrient recycling;
3. Networking of leading nutrient recycling projects across Europe with technology suppliers and users;
4. Present European Commission perspectives on R&D&I;
5. Discuss the research needs for nutrient sustainability in the new EU research framework programme 9 (FP9, Horizon Europe), within the five societal challenges and/or a possible Mission on nutrients.

Targeted stakeholders: researchers, R&D projects and institutes, company R&D department representatives, European Commission EASME, DG RTD, DG AGRI, and DG EV, EIP AGRI, EIP WATER, EIT Raw Materials, funding bodies HORIZON2020, LIFE, INTERREG, SME INSTRUMENT

Programme

9.00 – 10.00 Registration European Nutrient Event Day 2

10.00 – 10.50 Opening Plenary – where we come from

Ludwig Hermann – Chairman European Sustainable Phosphorus Platform (ESPP)
Welcome

Vincenzo Gente - EC-EASME
Overview of nutrient related H2020 and Life projects in Europe

Annika Eskusson - European Commission, DG RTD
EU roadmap to sustainable management of nutrients



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Kimo van Dijk – research project manager ESPP

Inventory of 100++ nutrient related projects and research underway - summary of 1st (Berlin 2015) and 2nd (Basel 2017) European Nutrient R&D events

Questions and discussion

10.50 – 11.20 Coffee break (*offered by HERA Group*)

11.20 – 12.40 Current nutrient research – what is going on projects speed date presentations

Speed date presentations of about 25 key nutrient research projects. Representatives of selected projects present their specific approach and share results. Projects from different sectors covering different topics, waste flows and countries. Projects presented are a selection of all nutrient related research going on in Europe and covered by the ESPP catalogue of nutrient recycling and stewardship research projects: www.phosphorusplatform.eu/R&D

Projects yet confirmed that will give a presentation:

H2020 funding: AgroCycle, Circular Agronomics, HYDROUSA, INCOVER, Pegasus, PFeWTR, Run4Life, SABANA, SYSTEMIC, Water2Return

INTERREG funding: BEST, No_Waste, NuReDrain, Phos4You, SEABASED

LIFE funding: DOP, Newbies, TrialKyl, Vitisom

Other funding: BiofuelcellAPP, HTC, MIND-P, PARFORCE, RAVITA, StraPhos, ViviMag

Questions and discussion

Ludwig Hermann – President ESPP

Introduction to afternoon work objectives and method: discussion of R&D needs related to nutrients in FP9 and possible “Mission” on nutrients, based on proposed Mission outline developed by SYSTEMIC / ESPP / International Nitrogen Management System (INMS) / Biorefine Cluster Europe

12.40 – 13.45 Light lunch

13.45 – 15.00 Future challenges in nutrient research, development, innovation and implementation



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Small group discussions on projects underway and research needs (in particular with reference to FP9) in different targeted areas.

Discussion leader(s) provide for each table a short 3 minutes introduction then moderate and ensure reporting. Example of potential topics are:

- Phosphorus recycling in dairy industry
- Phosphorus efficiency in livestock and feed
- Manure processing and products
- Technical phosphorus recovery from sewage sludge and sludge ashes
- Smart city and urban nutrient cycles
- Agricultural soils, water, drainage and eutrophication
- Municipal sewage biosolids use as organic fertiliser
- Organic farming and nutrient recycling
- New innovative sustainable fertilisers
- Agricultural and food industry wastes
- Digestates processing and nutrient recovery
- Water reuse and nutrient recycling
- New (source separated) sanitation
- Nutrient trading and policies
- Urban green- and biowaste
- Slaughter industry and animal by-products
- Low-level phosphorus discharges
- Nutrient recycling with algae cultivation
- Closed loop nutrient cycles in horticulture (hydroponics and aquaponics)
- Efficient carbon, nitrogen and phosphorus cycling in the agri-food system
- Sea and river (beds) nutrient recovery
- Food, diets, nutrition and safety
- System analysis: data, monitoring and flows
- Micronutrients recycling

15.00 – 15.30 Coffee break (*offered by HERA Group*)

15.30 – 17.00 Plenary panel discussion about nutrient research needs in next Horizon Europe (FP9) with a panel of the table leaders and the morning speakers, DG RTD (represented by Pavel Misiga), EASME and DG AGRI (TBC).

Discussion themes:



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1. How do nutrients fit in the Horizon Europe pillars? How nutrient research needs identified during the tables are relevant to the five FP9 thematic challenges: Health, Inclusive and Secure Society, Digital & Industry, Climate - Energy & Mobility, Food & Natural Resources.
2. What other EU (R&D) funding instruments are relevant for the nutrient research community?
3. What should a Mission on Nutrients look like? What should be included?
4. How does a mission on nutrients fit in with potential/proposed other missions on food safety, water etc?